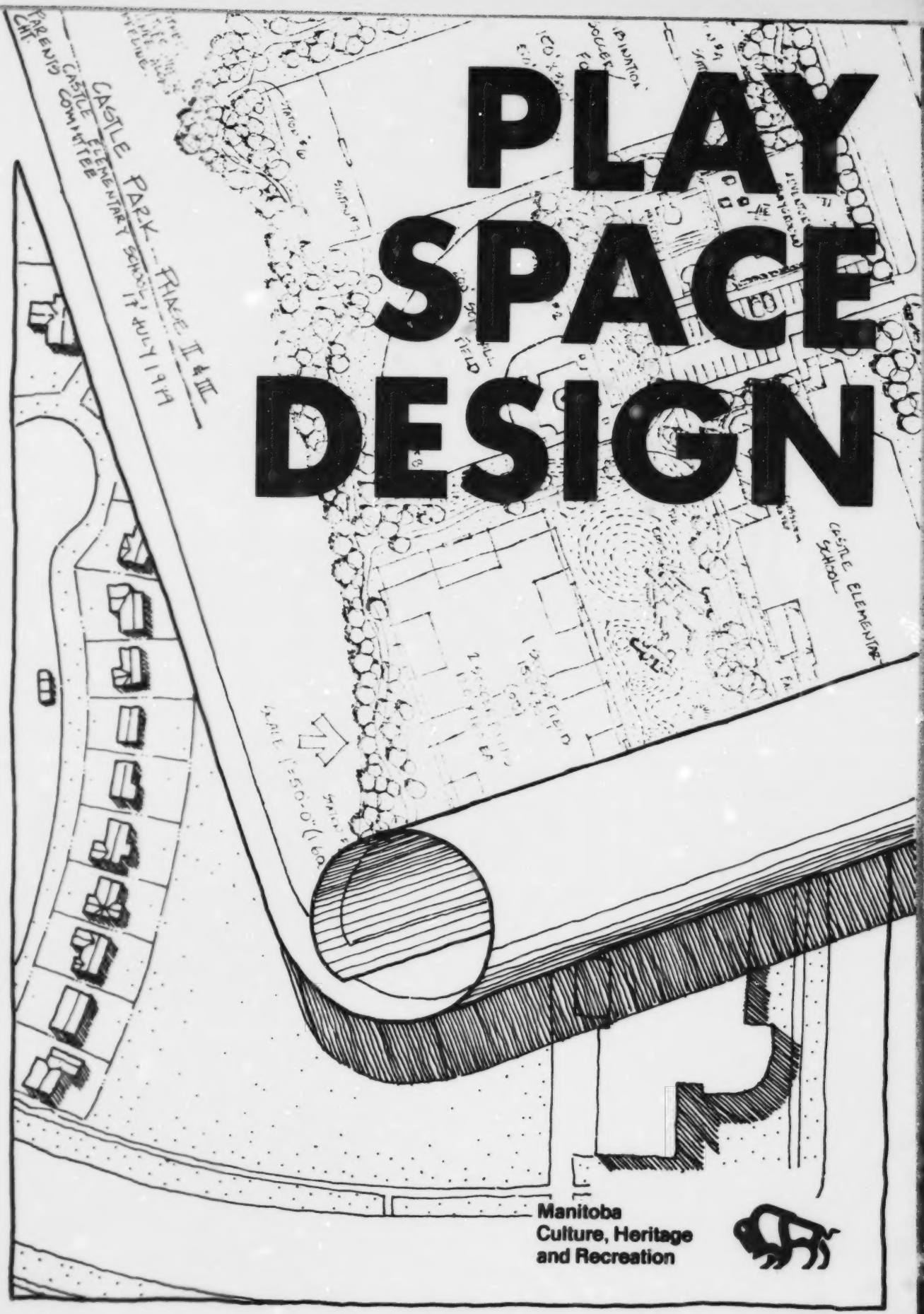
PLAY SPACE DESIGN



Manitoba
Culture, Heritage
and Recreation

PLAY SPACE DESIGN

Guidelines for the Planning and Design of Children's Play Environments.

Charles H. Thomsen

acknowledgements

The design of children's play space was at one time low on my list of priorities. Helping to raise three children changed that attitude. Observing their play and lack of rich and diverse community recreation resources, I have become greatly concerned and critical of contemporary play space and community design. As I recall the stimulating play environment I experienced as a child with its open fields and woodlots, I question the critical ingredients lacking in our own community recreation open spaces today. Why are these spaces unused and uninteresting or continually vandalized?

Although these questions may not be answered directly in this manual it is hoped the manual will fill an important resource gap by helping community groups undertake and realize better community play space design. The writing of this manual is the result of the many hours spent in discussion at community meetings and workshops. Recreation consultants and community people have contributed valuable ideas and criticisms. Many other sources

have also been used in completing this manual.

In particular, I am appreciative of the editorial comments and project guidance by Donna Ghidoni, of the Recreation Services Branch of the Department of Culture, Heritage and Recreation. I am also appreciative of the constructive criticism of this manual by Lenore Laverty, of the Department of Culture, Heritage and Recreation, Larry Ketcheson, Canadian Parks and Recreation Association, and Satya Brink, Planning Division, Canada Mortgage and Housing Corporation. I would also like to thank Marilyn O'Connor for her assistance with the word processing, layout and printing.

Finally, I would like to thank the individuals whose ideas I have absorbed as my own over the years, but fail to acknowledge. By passing on these valuable ideas it is hoped better community design will result for the benefit of everyone; young and old.

Thanks,

Charlie

Charles H. Thomsen, 1983

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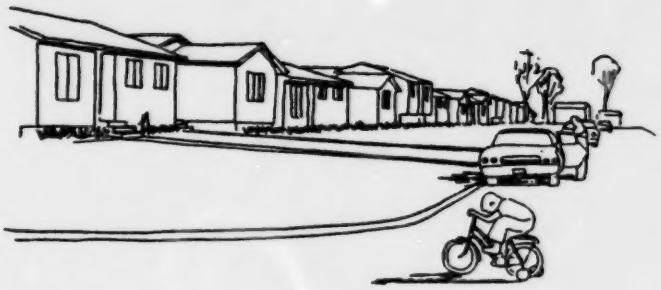
introduction

THE DESIGN OF CHILDREN'S PLAY SPACES

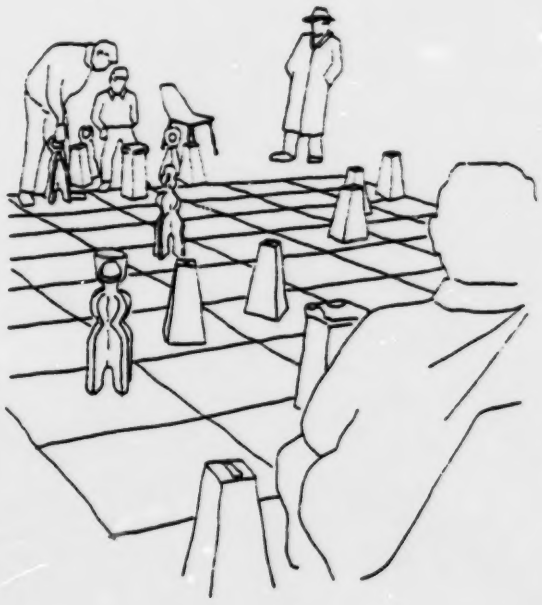
What's happened to all those great play spaces we knew as kids? The ponds and sloughs, woodlots and grassy meadows, or abandoned places of our childhood. The old tree that became a fort, a rocket, or a ship at sea. Think back for a moment on your own childhood and recall what you did and where you played.

The landscape of today is divided into domains: public/private, residential/ commercial, rural/urban, with each domain controlled by adults. It is divided by ownership and children are not owners. In planning these domains, adult rules and lifestyle patterns often dictate form and use. The resulting play spaces are not stimulating or challenging, and do not address the particular needs of the child. Comments such as "stay off the grass", don't touch", "don't make so much noise", or "go play somewhere else" are often voiced by adults.

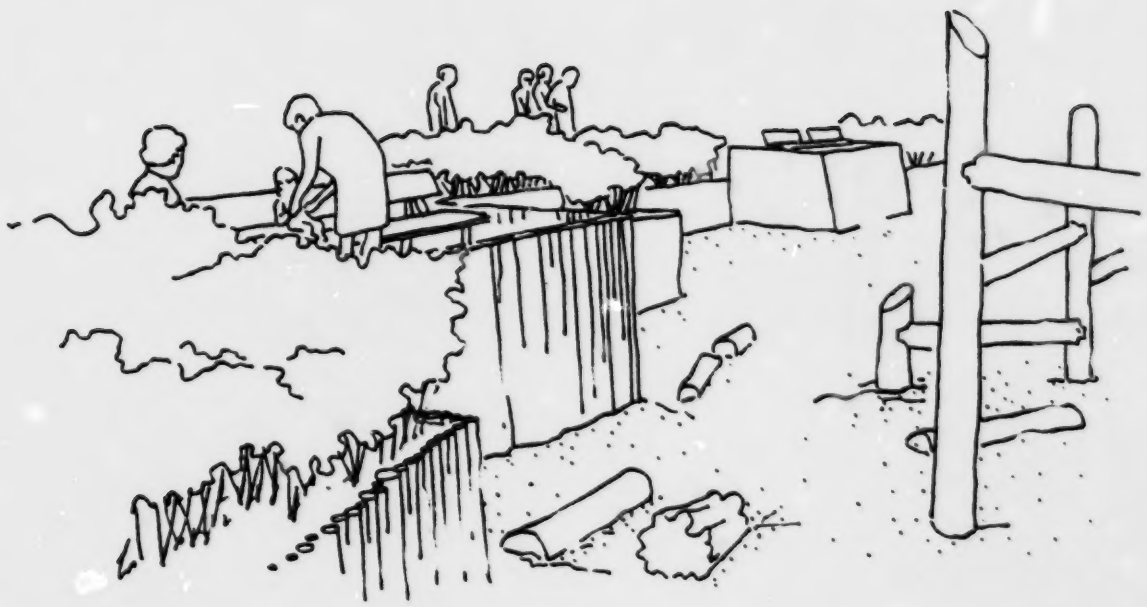
If we are to develop better living environments we must develop a greater sensitivity to and understanding of the needs of these youngest members of the community. Whether we are planning or evaluating the design for parking lots in residential areas, sidewalks on main street, neighbourhood parks, or simple play space structures we must take into consideration the spontaneous and creative play characteristics of children. In planning for these places we must also plan for the opportunity of a healthy interaction between all age, interest and ability groups. These spaces must be designed for either direct contact and participation in the same recreation activity or indirect contact such as with a spectator or observer.



The primary purpose of this manual is to aid community groups and recreation consultants by outlining and discussing the process to follow when planning and designing a community play space. It also summarizes many of the critical points to consider when planning and designing the special equipment and features found



in many of the more challenging and diverse play environments. As this manual is not intended to be a comprehensive document covering all the unique aspects in the design of children's play space, the appendices include references for important and available publications and books on this topic. It is hoped this resource will become a valuable aid to communities in the development of better play spaces for children.



play

"Play is an activity which is itself free, aimless, amusing or diverting."

Lazarus

"Play is that medium through which a child does his physical, mental, and emotional growing. It is through his play that he experiences life, and comes to a greater understanding of the world around him."

R. Thomsen

"Every child must occasionally be able to splash and dirty himself. There is a

WHAT IS PLAY AND WHY IS IT IMPORTANT

Before discussing the process to follow in developing play spaces, let us briefly identify what play is and why it is so important to children. Play is the medium through which the child grows physically, mentally, and emotionally. It is through play that he experiences life and achieves a greater understanding of the world around him.

When we study the needs of children we discover there are four basic aspects of play: physical, social, creative and quiet. Obviously, physical play is necessary. Each child has a need for exercise and the development of physical skills and muscle co-ordination: burning off excess energy is essential, as any parent or teacher will attest. Activities such as climbing, running, or sliding are physical play.

Social play is equally important. Through it the child learns the use of language, begins to understand human relationships, and develops the ability to work with and learn from others. Role playing, using special equipment, and team activities are situations which encourage social interaction.

Creative play is essential to any child's development. Ideas can be tested, imagination stimulated, and the environment manipulated and transformed. This exploration and discovery is critical in the growth of young minds. The loose parts such as sand, water, boards and tires found in an adventure playground fulfill a child's creative needs.

Quiet play is too often overlooked. The creation of an atmosphere for quiet play to occur is usually neglected in the design of a play space. The child should be able to retreat from the main activities either to be alone or with a special friend to observe, meditate, or play quietly.

Jean Piaget, a noted Swiss psychologist, says that environmental influences increase in importance as the child grows. As 80% of a child's learning occurs before age eight, his reason for children's psychologists constantly pointing out the special importance of such play for mental development. Children who are given the opportunity to play without inhibitions will rarely find it necessary in later life to seek outlets for suppressed wishes and urges."

S. Ledermann

"It is too often forgotten, in our brash, practical, modern world, that twilight, shadow and beauty are as important to a growing child as food and air."
Lady Allen of Hurtwood

"The rich source of concrete experiences of materials, human relations, and sentiments which we collect during our childhood will all through our adult life

be a solid ground for our thoughts, our intuition, and our feelings."

E. Insulander

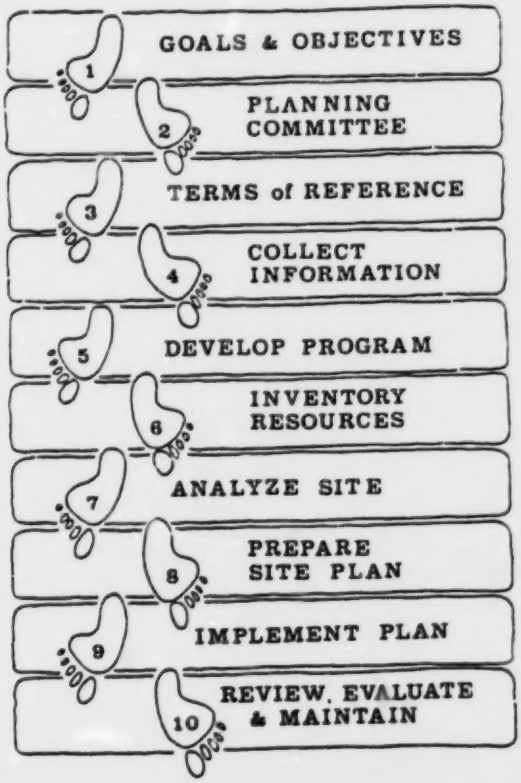
"Man does not cease to play because he grows old; man grows old because he ceases to play."

G. B. Shaw

play environment is vitally important. The play environment must encourage opportunities and outlets in which the child can manipulate, experience, and become familiar with all the aspects of play.

When the environment does not provide constructive outlets for play, vandalism, boredom, or just idle moments 'messing around' can result. Windows are broken, branches of trees are snapped off, or play equipment is damaged. Often these environmental indicators give us clues as to what is really needed by the children.

planning process



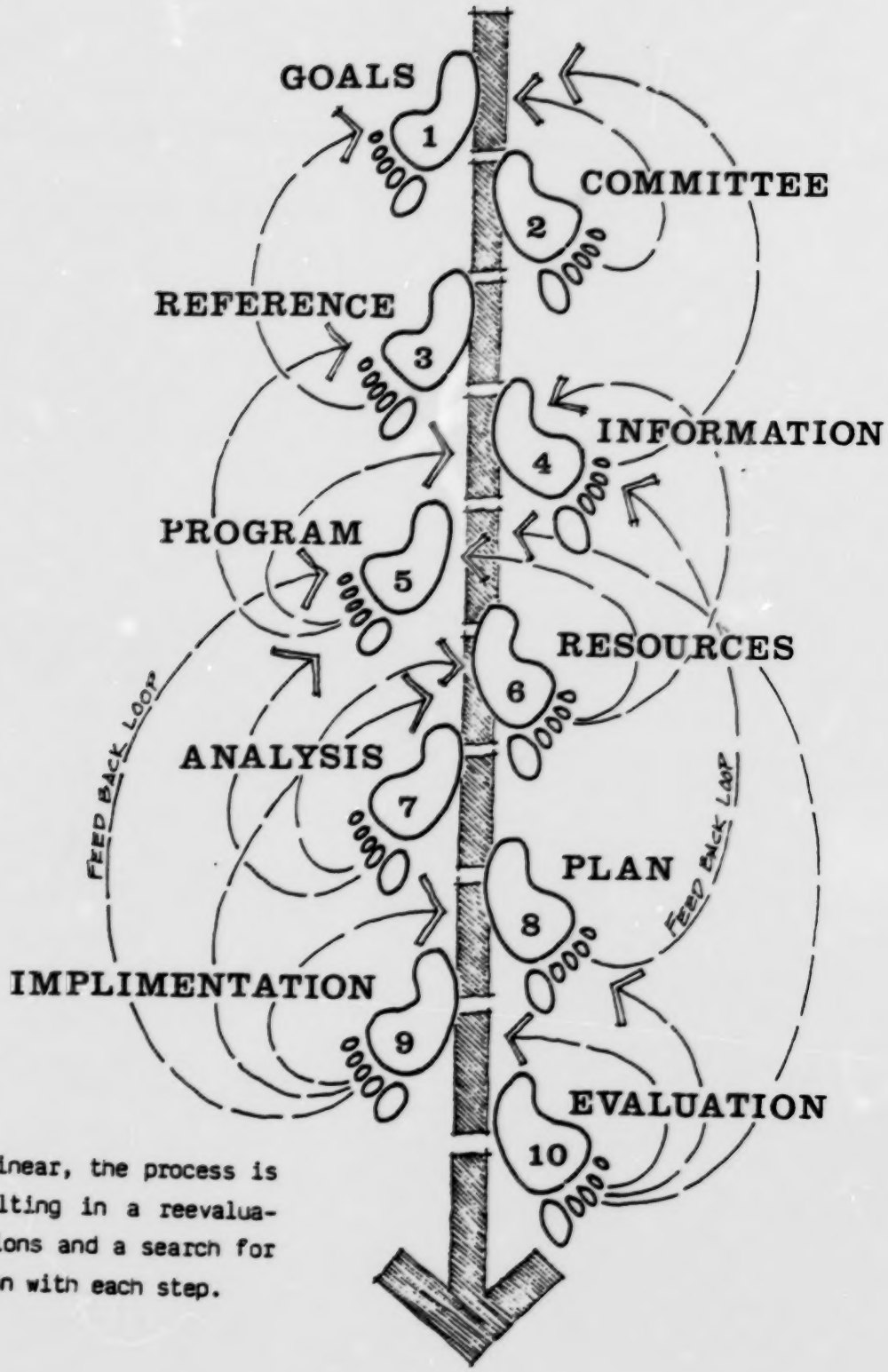
HOW TO PLAN YOUR COMMUNITY PLAY SPACE

Once a community has identified the need for a new play space or a modification to an existing one, there are a number of steps that should be followed in order to help assure the success of the project. These steps comprise the "planning process" and include:

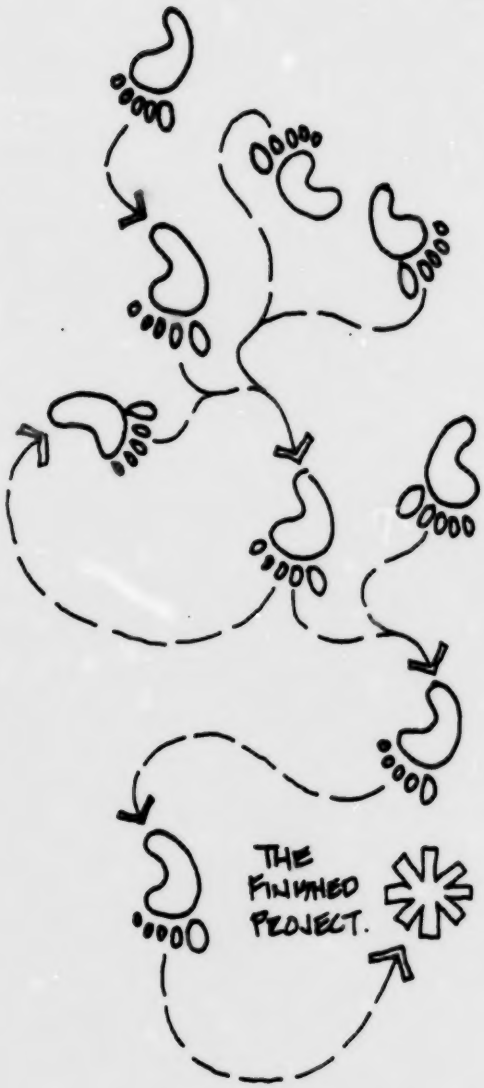
1. Set goals and objectives.
2. Form a planning committee.
3. Establish terms of reference.
4. Collect information
5. Develop a site program.
6. Inventory resources.
7. Analyze the site.
8. Prepare the conceptual plan.
9. Implement the plan.
10. Review, evaluate and maintain the site.

Rather than linear, this approach to planning is a circular process extending the job of play space design beyond the construction of the proposed project.

It is a process in which "feed back" from each step will often cause the re-evaluation of decisions made earlier or the search for new or additional information.



Rather than linear, the process is circular resulting in a reevaluation of decisions and a search for new information with each step.



It must also be noted that often these steps are taken simultaneously or in a slightly different sequence. For instance, a design subcommittee may be established quite early in the process and immediately undertake the analysis of the selected site, or perhaps a large donation of money or equipment is given even before a planning committee is formed and becomes a prime catalyst for the project. By involving the citizens of the community more directly in the process of planning, design, construction and maintenance greater reality is brought into the decision making process.

Resource people such as park planners, recreation consultants, and landscape architects can be of valuable assistance to the group during any step of the project.

STEP 1: SET GOALS AND OBJECTIVES

The idea for a play space can start with anyone: a teacher, a parent, a principal, a student, a public official, or with an employee of a parks and recreation department. The ideas can be in response to a specific community need such as an improvement to an undeveloped schoolyard or vacant lot, or changes to an existing play space that has been vandalized or over used.

It is necessary for one or two people to sit down and clearly state, in the form of a written proposal, the answers to three simple questions:

- What are we trying to do?
- Who are we doing it for?
- Why is it necessary?

Once there is a clear statement about the purpose, community input and participation can be sought.

STEP 2: FORM A PLANNING COMMITTEE

Ways of encouraging community participation must be built into all phases of the project from the start. If the project is going to succeed it must reflect the needs and wishes of those who are going to use the facility, as well as those who are going to be affected by the planning decisions. Therefore, in order to have the necessary base of support, a planning committee should be formed.

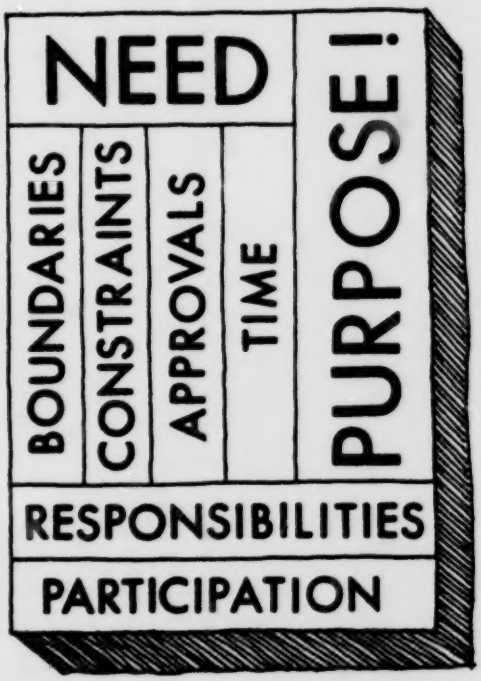
The planning committee should consist of a manageable number of concerned and highly motivated individuals. It should be an action group, not a collection of procrastinators who will "discuss" the project to death. The committee should consist of representatives from various community interest groups that will be most directly affected by the project (ie. recreation commission, school board, parents). An essential member of this

committee is a representative of the user group: the children. Subcommittees will be formed later to deal with specific tasks (ie. fund raising, collection of materials, publicity, lobbying, dedication ceremonies). This division of labour and responsibility will allow for wider participation by individuals within the community.

STEP 3: ESTABLISH TERMS OF REFERENCE

The main task of the planning committee is to discuss issues openly and thoroughly, and define the terms of reference. Answers must be found to such questions as:

- What facilities already exist in the community and how heavily are they used?
- What facilities are needed?
- What do we want to accomplish?
- What resources are available to accomplish our objectives (money, materials, people)?
- What guidelines or government policies must be followed?
- What authorities must approve the project?
- Who will be responsible or liable for the project after it is built?
- What grants are available and what funding agencies can be approached?
- Who will be responsible for the project after it is built?
- What will be the maintenance costs and procedures?

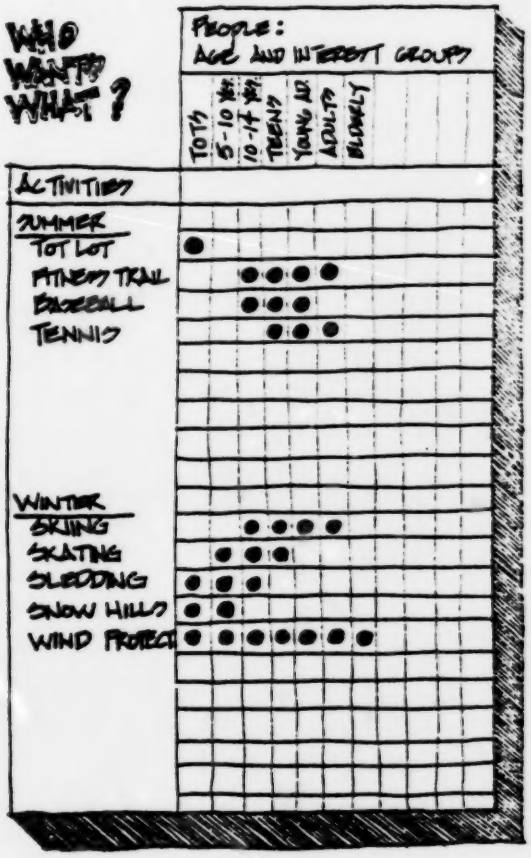


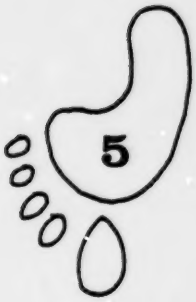
It will be up to this committee to establish a plan of action and to identify ways and means of getting community input.

STEP 4: COLLECT INFORMATION

As was mentioned earlier the real key to the success of any play space project is to involve the community in the planning. The plan will then be more reflective of the needs of the users and people living in the community.

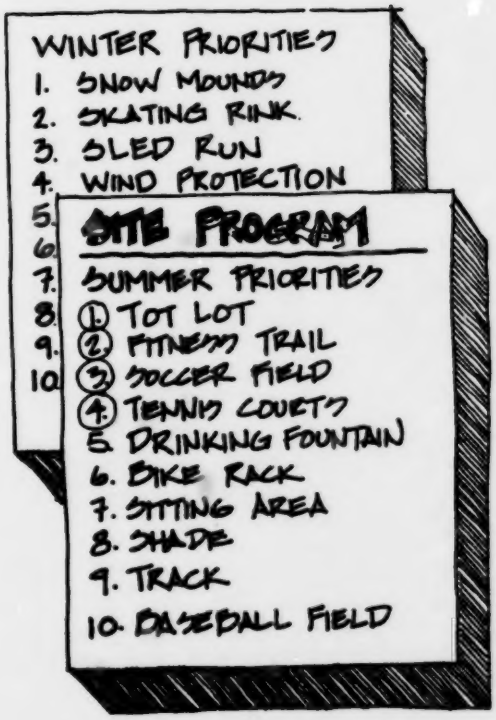
Certainly not everyone in the community can or should be a member of the planning committee. Through the distribution of questionnaires, personal interviews, public presentations and discussions, and community workshops the ideas of the community can be brought forward and taken into consideration in the formulation of a plan (see the sample letter and questionnaire in appendix b). It is not possible to get written answers to the questionnaires from the younger children so different methods must be used to get information. Drawing exercises and model making are valuable tools to get their ideas and involve them in the planning process. (A sample drawing exercise has been included in appendix b). Once the collected information has been reviewed and priorized it will form the basis of the site program (Step 6).





STEP 5: DEVELOP A SITE PROGRAM

The next step is to summarize and review all the information gathered by the various questionnaires, interviews, student drawings or comments from public meetings in order to identify a program for the site. From this information a list of activities desired by the community can be compiled. Priorities should then be established. The final plan will be determined by the user needs, the funds available, the human and material resources available to the community, and what the selected site can support.



Considerations should be given to daily and seasonal multiple use of facilities in order to accommodate many of the desired recreation activities. For example, tennis courts can be designed to double as basketball courts in the summer and flooded for skating rinks in the winter. As well, accommodations should be made to assure accessibility to the proposed play space by the disabled. Ingenuity and good design become important factors in achieving your goals.

There are a number of reference books that can be of assistance in developing a site program, but nothing beats your own personal observation of other play spaces to see what is successful and

what is not. Included in the bibliography at the back of this manual is a list of the most helpful and available reference books on the subject of children's play space design.

STEP 6: INVENTORY RESOURCES

All available community resources should be identified, listed, and used to ensure the success of the play space project. Three major resource categories to be considered are:

- Funds
- Donated materials
- People

Subcommittees should be formed to identify and gather these resources.

FUNDS - One of the major problems with any play space project is funding. Enthusiasm and ideas come readily with a highly motivated group, but nothing kills a project faster than a lack of funds. Government agencies such as local, provincial, and federal parks and recreation departments, employment programs, school boards, unions, corporations, foundations, and service clubs should be approached to see if supportive grants are available.

Generally, such requests must be accompanied by a written "brief" describing what the project is and who it is intended for. The brief should include:

- Synopsis - explicit summary.
- Title page.
- Table of contents.
- Introduction - history of project.
- Statement of need.
- Purpose - who is going to use it and receive the most benefit, when is it to be used and where is it to be located?
- Project description - with concepts, plans and photographs.
- Cost estimate.
- Projected timetable.

A fundraising subcommittee should be formed to plan, organize and conduct the fundraising campaign.

Fundraising auctions, spice sales, walk-a-thons, car washes or other special projects conducted by the community group are good methods of raising needed capital. Many of these community projects are excellent ways of involving the "user" more directly in the development of the project. See appendix g. for "tips" on undertaking fundraising.

DONATED MATERIAL - Used construction materials or material such as shipping crates, railroad ties, hydro and telephone poles, or tires are generally available at minimal or no cost. Before such materials are used, they must be cleared of all nails, screws, and bolts. The amount and type of material to be collected will depend on:

- What play equipment is specified in the final site plan?

- The amount of money available for the purchase of new material.

- The construction skills available on a volunteer basis from individuals in the community, public agencies, or from private contractors.

Do not turn down good "found" material just because it is not specified in the plan. Plans can and should be modified to accommodate available resources. A single individual or subcommittee should be assigned the task of collecting donated materials.

PEOPLE - Early in the planning process a survey should be made to identify individuals in the community who can volunteer skills to the project, such as carpenters and equipment operators. Resource people such as professional parks and recreation planners, consultants, or directors, and landscape architects should be identified, contacted, and involved in the process as soon as possible to help clarify issues and provide guidance where and when necessary.

For any play space project to succeed, it must have community support and participation. Not only should adults be involved, but the actual user, the child, should be involved as well. This is true not only for the planning

and design stages, but for the actual construction and maintenance as well. There are plenty of tasks such as planting trees, carrying materials or painting equipment that with minimal supervision can be undertaken by children. This participation is the real key to the success of the play space project. Through involvement, people care and take care. Vandalism is minimized and the need for maintenance lessened.

"that which we create, we protect"
Paul Hogan

Through participation the child, as well as the adult builds self confidence, self image, and a pride in their own community. An individual or subcommittee should be assigned the task of recruiting, training, and supervising volunteers. Some form of recognition should be organized to celebrate their contribution (ie. opening ceremonies, articles in a local newspaper, a plaque in the area).

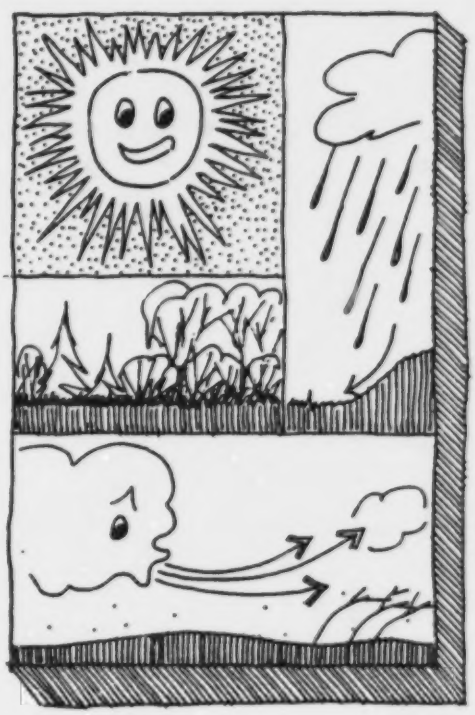
"Tell me, I'll forget. Show me, I may remember. But involve me and I'll understand."
Chinese Proverb

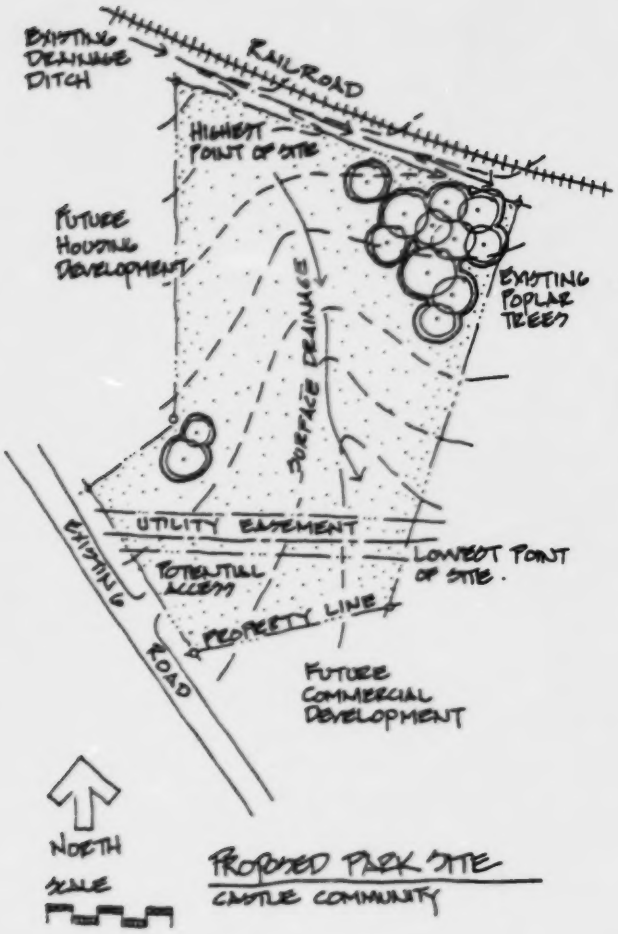
STEP 7: ANALYZE THE SITE

Once the program has been estaolished, we can move on to the site selection stage of the planning process. In many cases, site selection may have already occurred before tne planning committee was formed. For instance, in many communities the sites for recreation facilities have already been predetermined by community and recreation planners. It is then a task to become fully familiarized with the site and identify and analyze the positive features, as well as areas of potential problems and conflicts. This is often a responsibility given to a design subcommittee or landscape architectural consultant.

During this step, the site should be fully documented in photographs, sketches, and notes for reference during future meetings and planning sessions. Some of the key factors that should be identified and analyzed are as follows:

- Property lines and easements;
- Utility lines both above and below ground;
- Access points to the site both existing and potential;
- Existing pathways across the site;
- Major vehicular traffic routes;
- Adjacent land uses and owners;





- Existing buildings- taking special note of entry points, window openings, exterior water hydrants and electric outlets, roof drain outlets, service entrances, garbage storage points, and the activities occuring within the rooms adjacent to the outdoors;

- Orientation of the site in terms of prevailing seasonal winds, sunrise, sunset, and the north/south axis;

- Subsurface and soil conditions to identify the stability and bearing capacity of the soil, depth to the seasonal high water table or bedrock, and soil permeability;

- Surface landform and drainage patterns to determine low spots that will collect water or steep slopes that are subject to erosion by storm runoff;

- Vegetation - type, size, and health especially for all trees 4" caliper and larger; during construction do not destroy more vegetation than is absolutely essential.

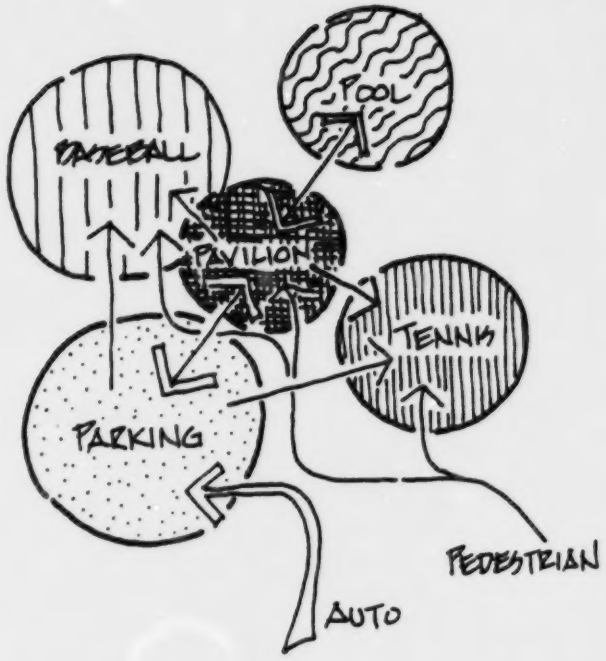
One of the primary purposes of this stage is to give the planners a clear picture of the qualities of the site so that any proposed development will be complementary and harmonious with the critical features of the site. At this step a qualified landscape architect can be of valuable assistance.

STEP 8: PREPARE THE CONCEPTUAL PLAN

Once the site has been analyzed and program priorities have been established, a conceptual plan can be developed. Recreation consultants and landscape architects can be helpful at this point by assisting the community to visualize ideas.

The conceptual plan should be done in sketch form on large sheets of paper. Using the relative shapes and sizes of the proposed recreation facilities, "cut outs" can be made from heavy cardboard. An example of these "cut-outs" can be found in appendix a. These "cut outs" can then be moved around the drawing in order to study the best possible relationships among the proposed activities, as well as between the proposed activites and existing site features. Consideration should also be given to relationships of adjacent site activities or land uses in order to avoid possible hazards or conflicts. Special care should be taken to fully understand the intensity and frequency of these relationships as it will assist in organizing the plan.

Key factors that must be considered when developing the conceptual plan are:



- Organize the site in terms of <u>different zones of activity</u>: Climbing areas for active play, both for younger and older children should be separated; organized, supervised activities separated from spontaneous, informal, unsupervised play; sitting areas for quiet play; loose snow material for creative play. Be conscious of and eliminate potential conflicts between various activities or user groups.

- <u>Separate by planted buffers, mounds, walls, or fenced areas or equipment</u> used by people of different ages and/or interests to reduce potential hazards and conflicts.

- Play spaces should be made more accessible to all individuals regardless of abilities or handicaps. For example, ramps should be used in walkways instead of steps and curbs.

- An effective play space should provide for a <u>diversity of activities and environments</u>. Considerations should be made for:

1) physical play- sliding, climbing, running, jumping;

2) social play - talking, laughing, sharing, acting.

3) creative play- digging, shaping, moulding, exploring, discovering;

4) quiet play- sitting, thinking, observing, "daydreaming";

- Play spaces should be close to, but not endangered by, nor in conflict with centers of other activities such as pedestrian walkways, parking lots, and building entrances. This will provide greater accessibility and safety, as well as the opportunity for casual surveillance.

- Utilize the natural features of the area wherever possible (rock, water, slope, woods, etc.). Preserve existing vegetation for shade, wind control, and as buffers between areas of different activity.

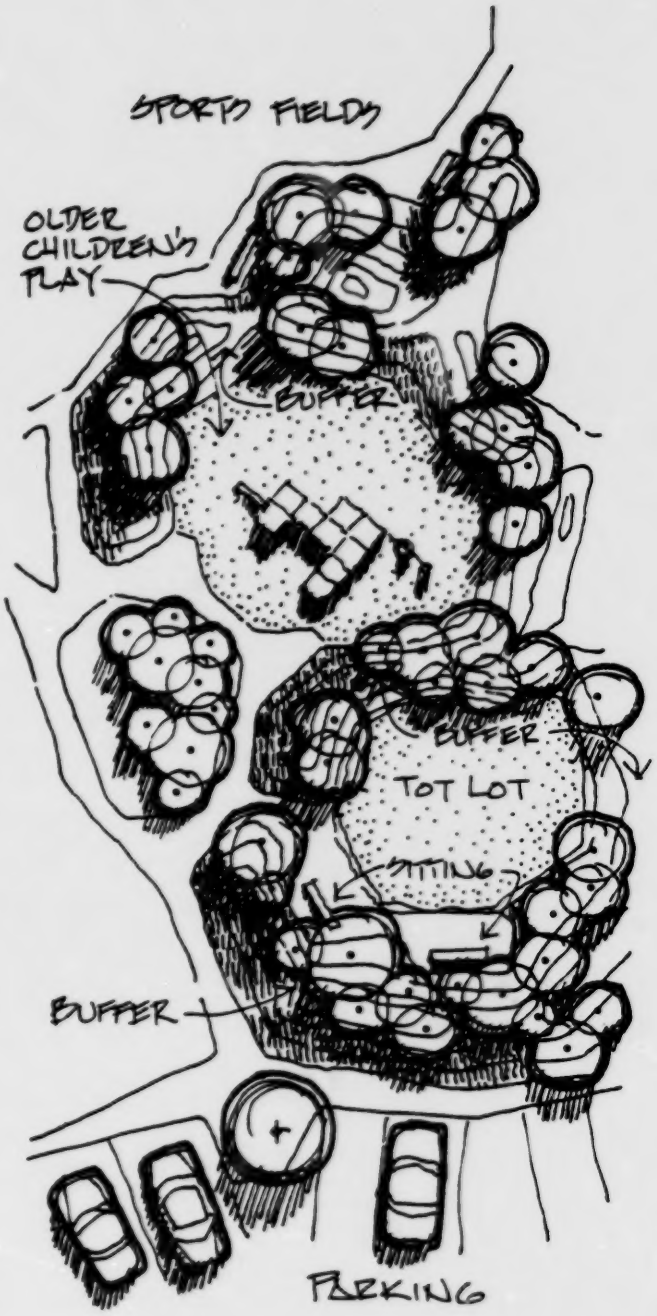
- Make multiple use of as many spaces as possible. (Slopes for sledding, an outdoor theatre, or a backdrop for archery; water for skating or wading; paved areas for games, for tennis and basketball; open grass areas for softball, football and soccer).

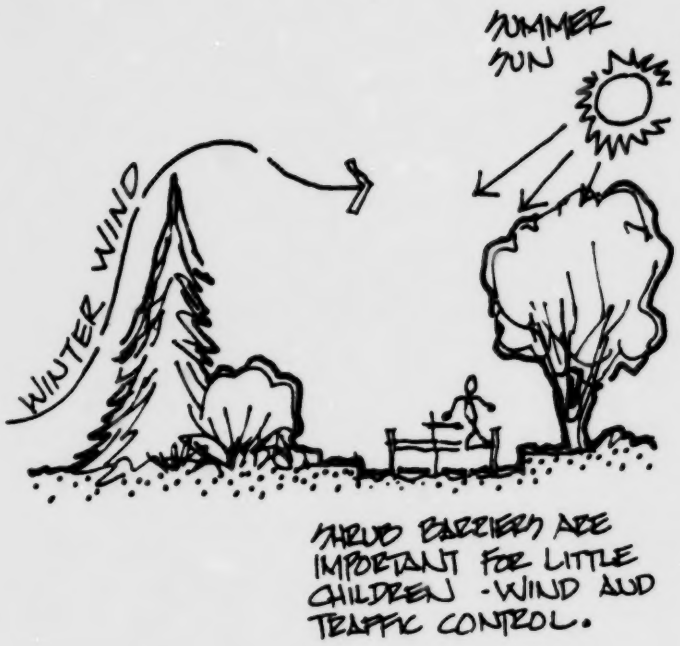
- Accommodations should be made in the design of the play space and play apparatus to assure accessibility by the disabled.

- Provide adequate parking so that overflow or random parking does not impose on adjacent residents or present hazards to park users.

- Place walkways where people naturally walk. Make each area easy to reach. Circulation should not be through the middle of play spaces.

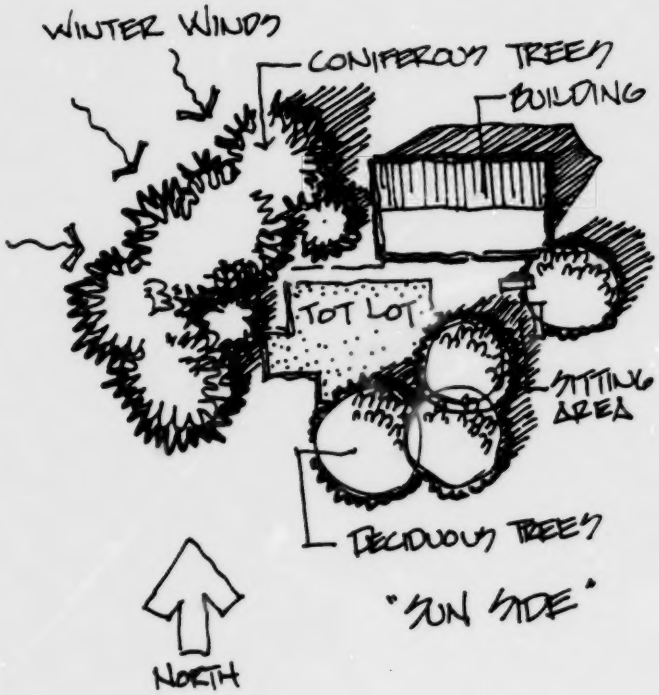
- Anticipate use of the entire site even though only a portion of the site will be developed at a time. Consider phasing the development.





- Integrate existing play structures into the winter play space by anticipating wind and snow drifting patterns and reflections from the sun. Use the decks from play structures as shelters.

- Parking areas should be designed to safely accommodate children's play. These areas are regularly cleared in winter and thus their surfaces make ideal hockey, skating and court game areas. Mounded snow in winter should be pushed far enough from the edges of the parking lot so it does not obscure drivers vision nor allow children to slide into parked cars or moving traffic. Pavements are the first areas to dry up in the spring or wet weather and their hard surfaces provide excellent bike riding and game court areas.



- To make the play space more comfortable to be in during both winter and summer, place deciduous trees to the south of the play space. In summer the fully leaved trees will provide the shade while in winter the sun will be able to penetrate and warm the play space. Small children are less able to regulate their body temperatures and tolerate heat than adults, therefore summer shade in the play space is essential. Adequate numbers of trees or overhead sun screens should be provided throughout the play space.

- Considering the effects of both sun and wind on the prairies during winter, the ideal location for a childrens' play space is to the south or southeast side of any building or large mass or trees. Both the building and trees will provide a good wind break and depending on the surface materials used, the building will reflect or radiate heat into the playspace.

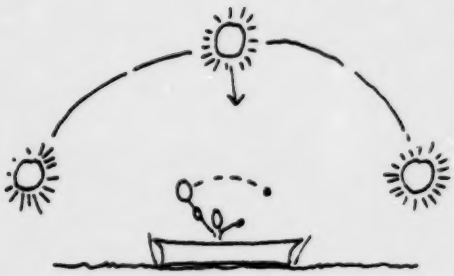
- Consider the uses of the surrounding properties and provide sufficient buffers and barriers to prevent both physical and visual conflicts. Be especially cautious of access to busy streets, water and railroad rights of way.

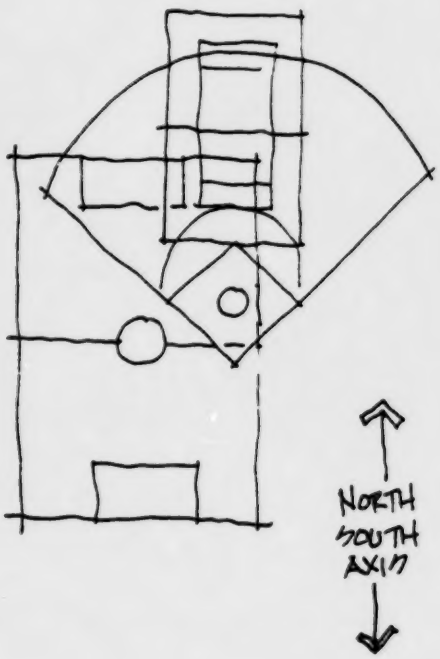
- Locate the children's play apparatus near entrance points to the play space and nearer the residential area from which the children come.

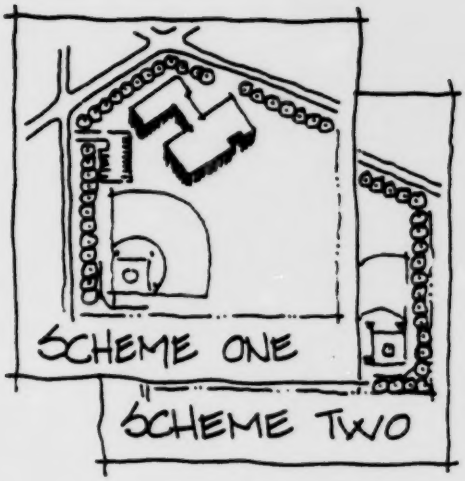
- Place sports fields in areas that are large enough to permit full-sized fields with a surrounding buffer safety zone. Locate sports fields and parking areas near each other.

- Orient sports fields in relation to the sun: (ball diamonds 45° either side of the northline; football and soccer fields running lengthwise northwest to southeast; tennis courts north and south.

- Place shelters, storage, and toilet facilities in a central location, but nearer the childrens' area. Leave the buildings free of dense planting so they can be seen more easily.







At least two preliminary plans should be developed to test ideas and provide a means of comparison for public debate. Once the issues are resolved, a final plan can be developed illustrating sports fields, play equipment, buildings, walkways, benches, trees, as well as other important site features. The plan can be used as a good public relations and fund raising document. In most instances, the final plan is necessary before any approvals are granted by school boards, recreation departments, or other funding agencies.

STEP 9: IMPLEMENT THE PLAN

It must be remembered that no plan is fixed or final. It is merely a reflection of current needs and values. As the years pass, further additions and modifications will undoubtedly be required to maintain a satisfactory play environment. Once the planning process has been started, it is ongoing.

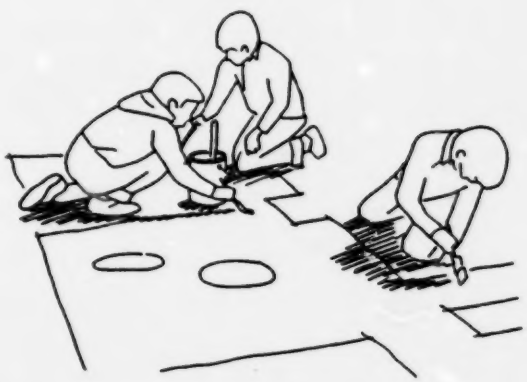
Responsible public agencies such as school boards and recreation departments that have jurisdiction over the project site must be approached for final approval before any construction can begin. This, of course, should not be the first and only time a presentation is made to

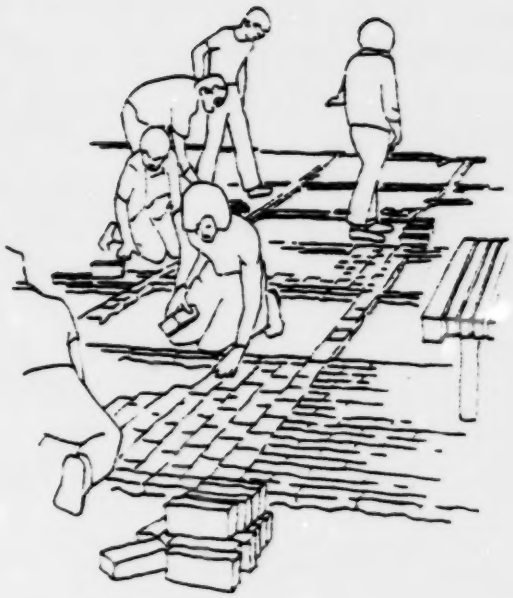
these agencies. People who are being asked to approve an important community project do not like to be surprised. At the very earliest stage of the planning process, these agencies should be contacted to voice their concerns and to hear comments by the community. Many agencies require scaled plans and details before any approval is granted.

Once approval has been given and funds have been raised, it is time to set a final schedule for construction. Basically, there are four options to follow in constructing a play area project:

- Hire a contractor to do all the work.
- Hire the manufacturer of the play equipment to erect his product.
- Use a combination of volunteer labour under the direction of a manufacturer's representative to do the work.
- Use strictly volunteer labour from the community to do the work.

Depending on the complexity and scale of the work to be undertaken, this last option is not advised unless someone either on the planning committee or from the community has had experience





co-ordinating and supervising construction. They should also be agreeable to undertake supervision of the project. It takes a great deal of patience and skill to manage construction, and to manage people, especially unskilled community labour. Once leadership for the project has been established, construction dates should be set, material ordered or made available, equipment secured, volunteers contacted and committed, and task leaders assigned to supervise specific construction tasks. Planning sessions in advance of construction should be held between the project construction manager and the task leaders to review construction drawings, and to be sure materials and equipment are available when needed. A well coordinated project is important. Another important consideration is having refreshments and a first aid kit handy at all times during construction.

It is important to remember that the implementation and construction of the project should be done in phases over a number of years. This will avoid the frustration of a community group overextending its capabilities and resources. It will also establish

from the very beginning the reality of an ongoing community commitment to the project. Constructing the project over a number of years can actually be considered a benefit for it allows a more thorough evaluation of the planning and design for each phase of construction and avoids wasting money and material on equipment or features that do not work or satisfy the needs of the community.

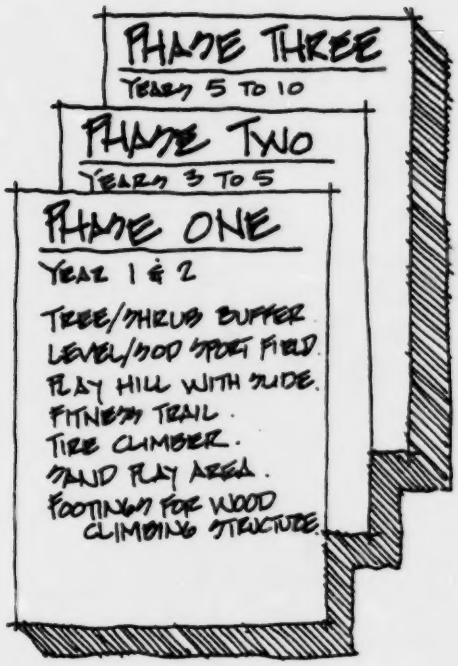
Factors to consider in phasing the development are:

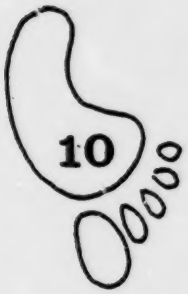
- Phase the construction work over a number of years to fit community priorities, resources available, funding realities, and construction capabilities.

- Construction within the earliest phase should provide facilities for those groups having the greatest need.

- Be sure facilities constructed in each phase are fully operational and not left incomplete. Unfinished equipment or facilities are frustrating and more easily vandalized.

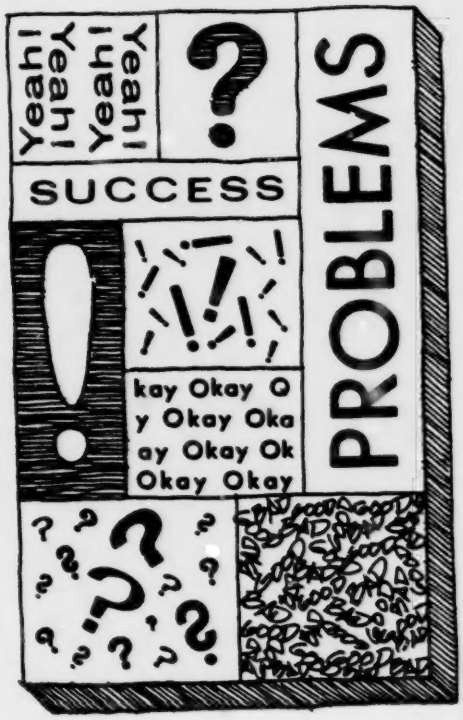
- Do not undertake more work than can be satisfactorily completed during one or two work sessions. Loose boards and unfinished equipment present an unnecessary hazard in the play area.





STEP 10: REVIEW, EVALUATE AND MAINTAIN THE SITE

As mentioned earlier, the planning process is ongoing. Through each phase of construction and after the project is completed, there is a continued need for the involvement of the community in the maintenance of the site. Events such as clean-up and paint-up weekends should be organized. The site should be continually monitored to measure the effectiveness of the design and to identify any necessary additions or modifications to the completed project. It must be remembered that no plan is fixed or final. It is merely a reflection of current needs and values. As months pass, new community needs and desires will arise causing a reevaluation of the plan and further modifications to the site and play equipment. This will be necessary to maintain a satisfactory community play space. If the new community needs and work required are extensive the planning process outlined within this text will again need to be followed from the beginning.

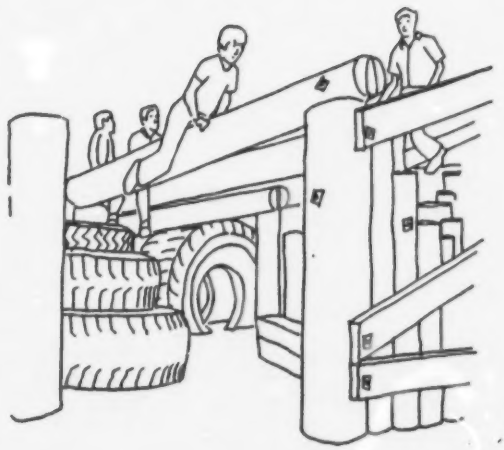


play space types

WHAT TYPE OF PLAY SPACE SHOULD BE DEVELOPED?

Besides the organized field layouts for sports or team play used primarily by older children and adults, there are numerous types of play space designs for younger children. Among the more popular or common are:

- The Creative Playground
- The Adventure Playground
- The Environmental Yard
- The Winter Snowscape



CREATIVE PLAYGROUND

The Creative Playground generally consists of fixed structures for climbing, swinging, and sliding. The materials used vary from wood and steel to rubber tires depending on the material and funding available. There are a number of "models" of commercially manufactured creative play equipment. Some of these models are even available in kit form. The lower prices of the kits will fit smaller community budgets, and allow greater

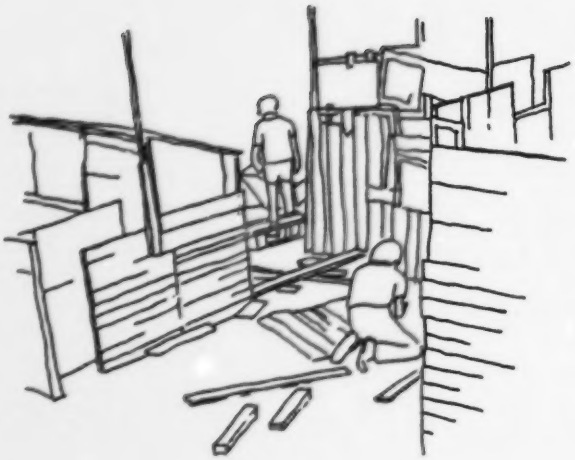
participation in the construction of the play space by local residents.

Installing a single piece of play equipment is not the final answer in the development of a successful play space. The structure is only one part of a complex and diverse play space. All parts of the space should be organized to create a circuit of continuous movement and interest. The Creative Playground must be rich in variety offering many situations that not only satisfy the physical play needs of the child, but the social, creative, and quiet play needs as well.

ADVENTURE PLAYGROUND

The idea for the Adventure Playground originated in Europe, and has been slowly tested and accepted here in Canada. In Manitoba, one example of such a play space is at Margaret Park in North Winnipeg.

The Adventure Playground is a play space of loose parts. It is a play space where donated construction materials can be put together in endless ways by the children themselves. Here the child can develop skills, and test ingenuity and creativity. Tools and supervisors are



available to the children if and when needed. Many aspects make this an exciting play space. It is where the future architects, engineers and builders are getting their start.

The Adventure Playground is often misunderstood by adults. It appears messy and dangerous to them. To contain its messy appearance it should be surrounded by either a screen of plant material, such as willows or spruce, or a solid wood fence.

ENVIRONMENTAL YARD

In the Environmental Yard the child experiences nature first hand and learns of the critical interrelationships that exist in the natural world around. It teaches the child environmental awareness.

Many children are lacking such an understanding of nature. They believe that milk comes from wax paper cartons or that bananas grow in the fruit and vegetable section of the local supermarket. In the Environmental Yard, the normal barrier between indoors and outdoors has been removed. The classroom moves outdoors. The Science class no longer relies on the written text, but the natural environment can be observed and experienced first

hand. The child is encouraged to participate in the world around him by planting trees or gardens and caring for them. The natural components of the play space are not only used for exploration and discovery, but can become the focus of the childs' physical and creative needs as well. Trees, rocks, and hills can be used for climoing, while the planting of seeds and the manipulation of sand and water can be the focus of their creative play.

Ideally, components from each of these three types of play spaces are combined and used in the development of one play space to provide the stimulation and challenge necessary for the childs' growth and development.

WINTER SNOWSCAPE:

The Winter Snowscape is unique to the northern Canadian habitat where cold winds, frozen lakes and rivers, and drifting snow dominate the landscape for a lengthy portion of the year. The winter months provide the opportunity and resources necessary for the rich and stimulating forms of play absent in the summer environment. The loose parts of adventure play are everywhere and there are new and changing environments to be explored. There is a greater opportunity for children to create their own play situations and

"Rather than helping young people to learn to live in harmony with the outdoors during the variety of seasons, to enjoy playing in the snow as well as in the summer sunshine, most adults teach children that the outdoors is a place to be used and enjoyed only at

certain times of the year, in certain weather conditions, at certain times of the day." p. 13

Peggy L. Miller, Creative Outdoor Play Areas. Englewood Cliffs, N.J., 1972

they are no longer limited to what is provided for them in the traditional playground.

Snow piled high at the side of the road is a mountain to be climbed or moulded into the endless forms created by the imagination. Hard packed snow, polished smooth by traffic on streets and walkways, serves as ideal hockey rinks or sliding areas. There is a new found freedom in the way the environment can be used. The snow transforms whole neighbourhoods into vast Adventure Playgrounds.

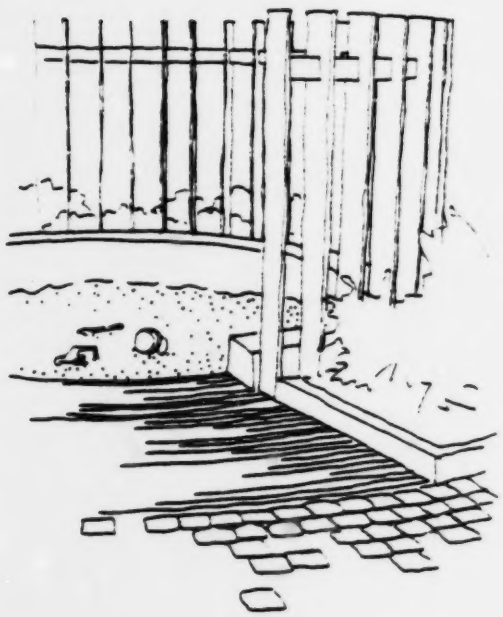
A series of interconnected snow mounds can be easily constructed in play spaces from snow removed from entrances, walkways, parking lots or open fields. Be certain the snow is free of stones or other sharp objects. As with any mound or climbing structure, snow mounds should be located away from potential hazards such as roads and parking lots.

Protection from the wind and exposure to the sun during the winter period is very important. A simple row of trees and shrubs will be effective for high and low level wind protection. Ideally,

school, park or housing structures should be located to the north or west of the play area in order to both reflect the sun and to provide protection from the prevailing winter wind. For a more extensive discussion and guidelines for the development of winter play spaces, refer to the CMHC publication: Prairie Winter Play, Research Project No. 10, by C. Thomsen.

Given the proper encouragement and instruction in winter ecology or snow sculpting, the children can enjoy one of the most exciting and creative periods of the year outdoors.

components



PLAY SPACE COMPONENTS: SOME DESIGN CONSIDERATIONS FOR SAFETY, ACCESSIBILITY AND MAINTENANCE

The following section discusses some of the important factors that should be considered when designing and constructing children's play spaces. The information has been drawn together from numerous books and guidelines written on the subject, from personal observations, and experience in the design of children's play spaces. Further information can be found in the books listed in the bibliography at the end of this manual. Included here is a summary of some of the more important points.

SAND

General Comments: Sand has traditionally been one of the basic elements in any child play environment. It is soft, pliable, suitable for digging in, and can be easily shaped and moulded into whatever a child can imagine. Sand is relatively inexpensive, easy to handle (both to install as well as play with), readily available, and virturally indestructable.

Design Considerations:

- Locate the sand area in a sunny location for warmth while playing and the drying of excessively wet sand. The sun will also help disinfect sand contaminated by cats.

- Provide shade nearby for relief from the hot sun. This can be accomplished with trees, an overhead trellis or small shelters.

- Use only clean sand and rake occasionally to remove sharp objects or other foreign debris.

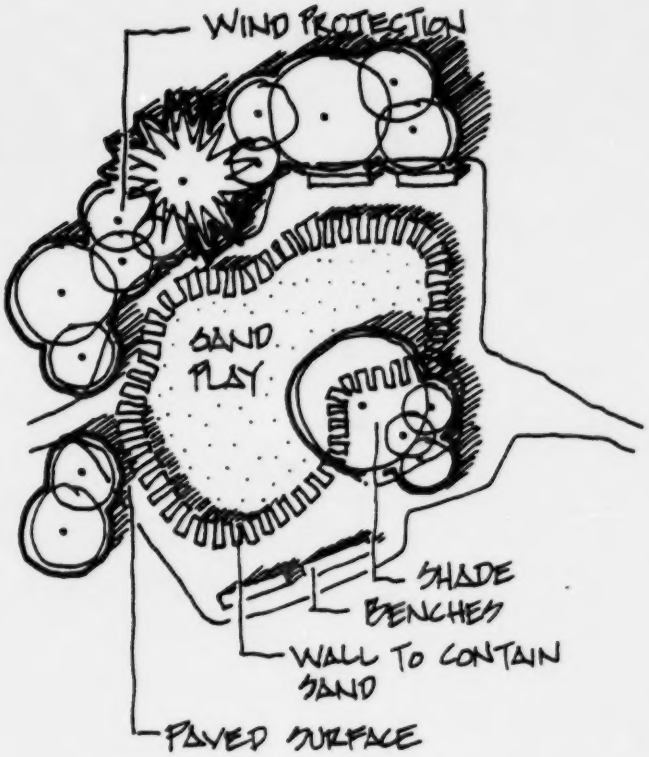
- Use wind screens to prevent blowing sand. This is especially critical in play areas used by the disabled and very small children.

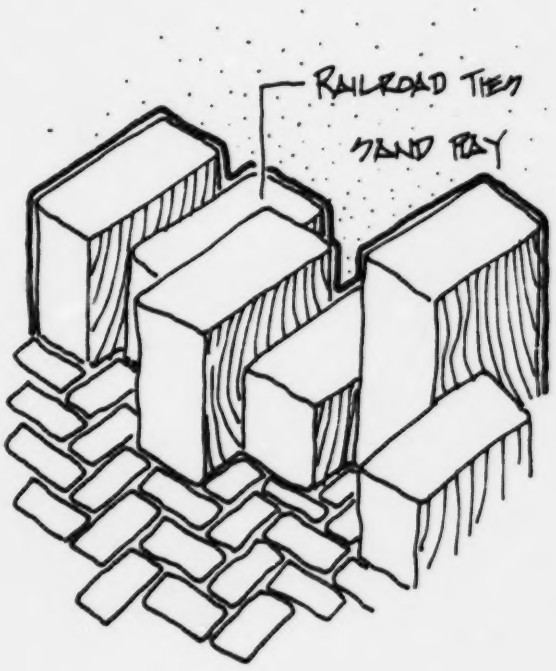
- Water nearby is desirable. It provides the glue necessary to mold and shape the sand. Those sand castles will not stand without it.

- Sand by itself will spread everywhere and needs to be contained within low walls or curbs. Take advantage of this situation and use the walls as benches to sit on, tables to work on, or "little mountains" to climb on. Places to sit on and tables to work on are important features and should be included within or adjacent to the sand play area.

- Consider placing the sand in a raised container so it may be used by children in wheel chairs as well as those who will have difficulty reaching the sand on a ground surface.

- Be sure the sand is deep enough to not disturb or be mixed with the sub grade soils. 12" (.30 m) is a minimum depth.





- Solid material such as brick, stone, asphalt, or concrete should be used as a paving material around sand areas. Grass will not survive the heavy traffic. Bare soil gets soft when wet and turns to mud.

- In areas where poor drainage exists, provide subsurface drainage tiles. Where possible, connect the drainage tiles up to a storm drainage system. The tile pipes can also be drained into an open ditch, stream, or dry well.

- The sand area should be located far enough from buildings to allow sand to fall off clothing and shoes before the child enters. Rough textured paving or grates will help knock the sand off.

- The sand play area should be separated from active play areas to prevent accidental running through, bumping, falling on top of or just the general disruption of quiet play.

- Make sure there is an adequate sand area available to play in. If limited in area, don't locate it under a climbing structure or swing. That is where the children are going to congregate and play, and there is too great a risk of accident, and conflict between users.

WATER

General Comments: Water has a natural attraction for children. It can be soothing, clean and full of surprises. It can splash, move, bubble, gurgle, spill and run, or can be still and mirror-like, reflecting images and spots of sunlight. Like sand, it too can be molded and shaped. In summer, it takes the form of whatever holds it, while in winter beautiful ice sculptures can be created.

Design Considerations:

- Water should be included on all play sites for both drinking purposes and as an element of play. However, a pond or lake is unnecessary.

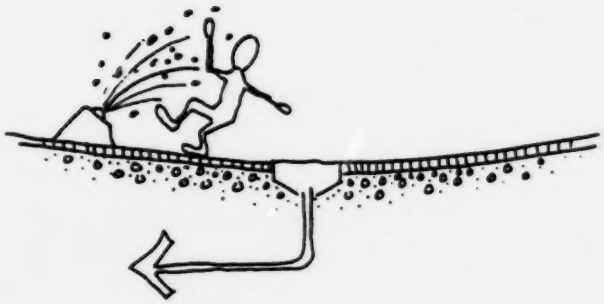
- All you need is a small source....a hand pump or a faucet. This limits the amount of water available yet is sufficient for making sand castles or mud pies, or for watering plants. The hand pump has the added value of making the user work for what they get....the result is an added challenge and greater appreciation for the final product.

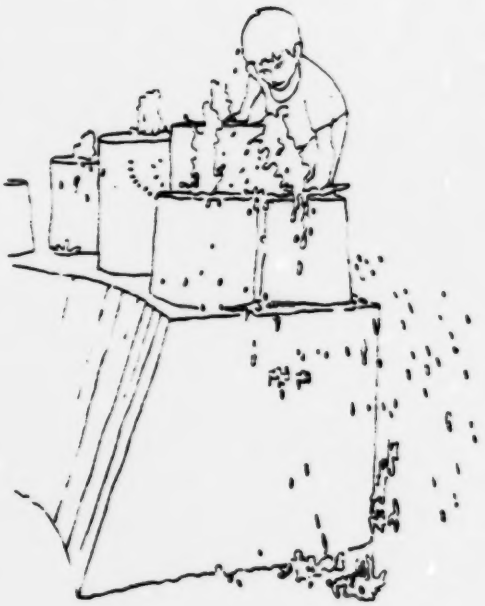
- A good design for containing small amounts of standing water is to form a dish - shaped, impervious surface (asphalt, clay with boulders, concrete), and place a drain inlet at the lowest point. The drain can be plugged to stop water leakage. When the water is no longer desirable or acceptable, the temporary plug can be removed and the water drained.

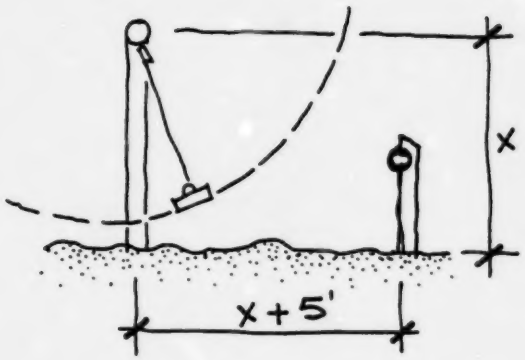
- Wading pools require a chain link security fence with a lockable gate, and a supervisor in attendance. Wading pool water must be chemically treated to eliminate contamination (the same as a swimming pool), be either recycled with a pump and/or be connected directly to a sanitary sewer system for drainage.

- Children must be able to touch, feel, and manipulate the water source. It provides the necessary challenge and satisfies the curiosity. A simple garden spray nozzle provides an ideal opportunity for this.

- In many play spaces, water can be handled with a water table. The table not only provides more convenient and controlled access by young children, but handicapped children as well.







- The area around the water should have a hard surface that will remain dry and not become muddy. Materials such as wood, stone (boulders), gravel, asphalt, or concrete will work. Keep in mind that any paved surface that is going to be splashed with water should be of a 'non-skid' type.

SWINGS

General Comments: Any moving equipment is a potential hazard in a children's play space. Properly designed and situated swings can be a valuable apparatus for play. They not only provide an outlet for excess energy, but can encourage teamwork and co-operation.

Design Considerations:

- Swings should be located in areas away from major circulation paths to avoid conflicting with other activities or becoming a potential hazard. Protect both the child using the swing and children moving through the play area by safety buffers.....hedges, mounds, or fences.

- Keep the zone in front of the swing clear of any fixed structures. Children make all kinds of games out of swings.....they often get the swing going as nigh as they can and then jump off to see how far they can leap.

- The one critical part of the swing is the 'swivel' connection. With the heavy use this piece of equipment gets, the connection is easily worn out. One good type of swivel is an auto "universal joint" with a "quick link" welded on the bottom. Be sure to grease all fittings regularly.

- Swings should not be attached too close to the support structure to avoid hitting it, or have too long a 'swing' radius as it puts excessive pressure on the swivel device.

- Seats should be made of a soft material to reduce the hazard of children being hit by 'flying swings'. Rubber tires are an excellent material.

- A simple heavy rope with knots in it is often the best sort of swing. It can be used to climb on as well as swing.

- Swings should be scaled to the children that are going to use them. Six feet (1.83 m) is good for young tots, but not for eight years old.

- Surfaces under swings should be soft and well drained.

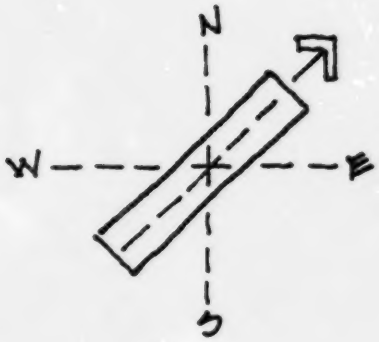
- Plastic wrapped cable or rubber hose covered chain are excellent swing support material. They are stiff enough to prevent the swing from being wrapped around the top support bar yet are flexible enough to provide good movement. They also provide a safer hand grip.

SLIDES

General Comments: Slides provide for movement in the play space without having apparatus with moving parts. In fact you do not have to design a structure for sliding. A cardboard box or 'crazy carpet' on a hillside will do fine in both summer and winter. I have seen children slide down a snowy hillside on an old bed spring and have a good time.

Design Considerations:

- A tall, free-standing slide with low edges on the bed is asking for trouble. A child can easily fall backwards from the ladder or over the sides. Set the slide on a hill or climbing structure to avoid these potential hazards. Climbing the hill or structure becomes another play experience. Slides built into a hill can be more easily used by disabled children.



- Be sure the slide is as wide as possible to provide greater opportunities for play. This is desirable for short slides..... on longer slides the 'bed' should be narrow for greater control of movement and safety.

- Slides should be steep enough and long enough to provide a challenge. A 2:1 slope is sufficient..... a better slope is a 2:1 with a 1:1 section to increase the speed. In either case there should be a slowing strip at the end of the run.

- The ground on either side of a slide located on a hillside should be stabilized with a hard material. Grass will not last with all the traffic and erosion.
  Railroad tie steps, telephone poles (on end as steps), tires, or boulders make a good surface.

- A curving or variable gradient slide is always fun.

- Never orient the slide to the south or southwest if the bed is made of metal unless shade is provided. After a long day in the sun, hot metal can easily burn exposed skin.

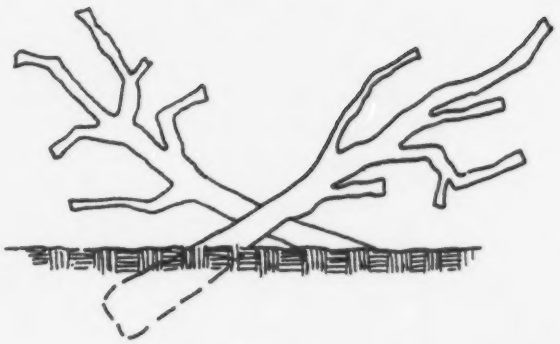
- Avoid sharp edges to the slide, butt joints in the slide bed, or rough surfaces directly in contact with the slide bed. These are all potential hazards. Wood is inexpensive, but as it weathers it can cause splinters.

- Try to combine the slide with other play equipment to complete or continue a 'circuit' of movement.

- Be sure the landing area at the end of the slide is made of a soft, 'dry' material. Keep the landing area free of fixed objects to reduce the chance of accidents.

CLIMBERS

General Comments: Climbing structures can provide a great number of play opportunities in a relatively small space. With such diverse attachments as ladders, poles, slides, swings, bridges or cargo nets the structure can easily become the focal point and dominate the activity within the play space. Besides being an apparatus for play, the structure can provide shelter, shade, and wind protection. It is important to remember that no play space is complete nor will be successful with a climbing structure alone. Equally important are such features as quiet sitting areas or areas of sand and water play.



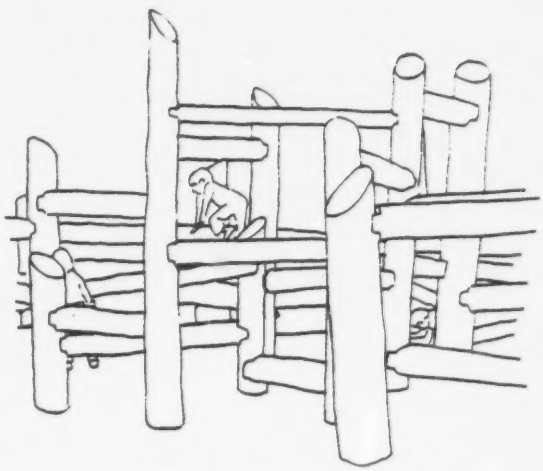
Design Considerations:

- Numerous materials can be used to climb on: Dead trees, live trees, hills, ropes, cargo nets, tires (stacked or strung out), fences, buildings, poles, or boulders.

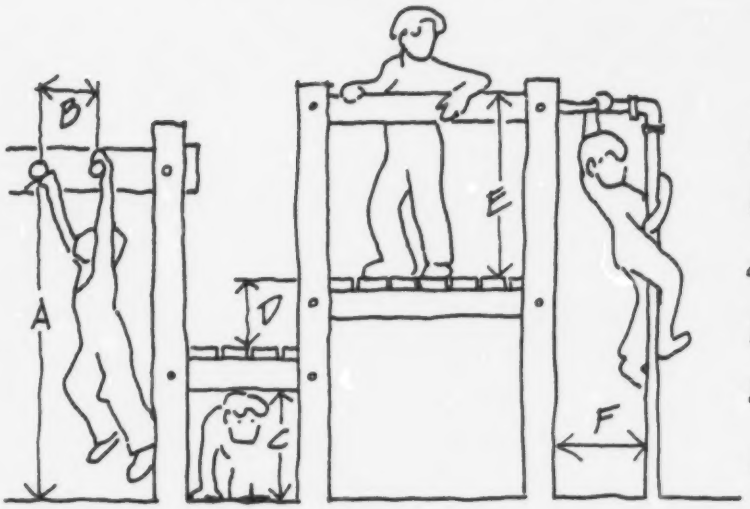
- The scale of the climbing structure must fit the child's abilities. They must be high enough to provide a challenge yet designed safely enough to prevent accidents. As well they should be designed to accommodate accessibility by the handicapped.

- With a well protected deck structure there is the opportunity for active play above while below in the semi-enclosed area, there is the opportunity for social play; playing house, store, or numerous other adventures.

- All wood should be pressure treated or coated with a non-toxic paint or wood preservative. Creosote may be used for wood surfaces below grade or coming in direct contact with damp soil. Never use creosote on any surface above ground as it can come in contact with and burn skin or damage clothing.

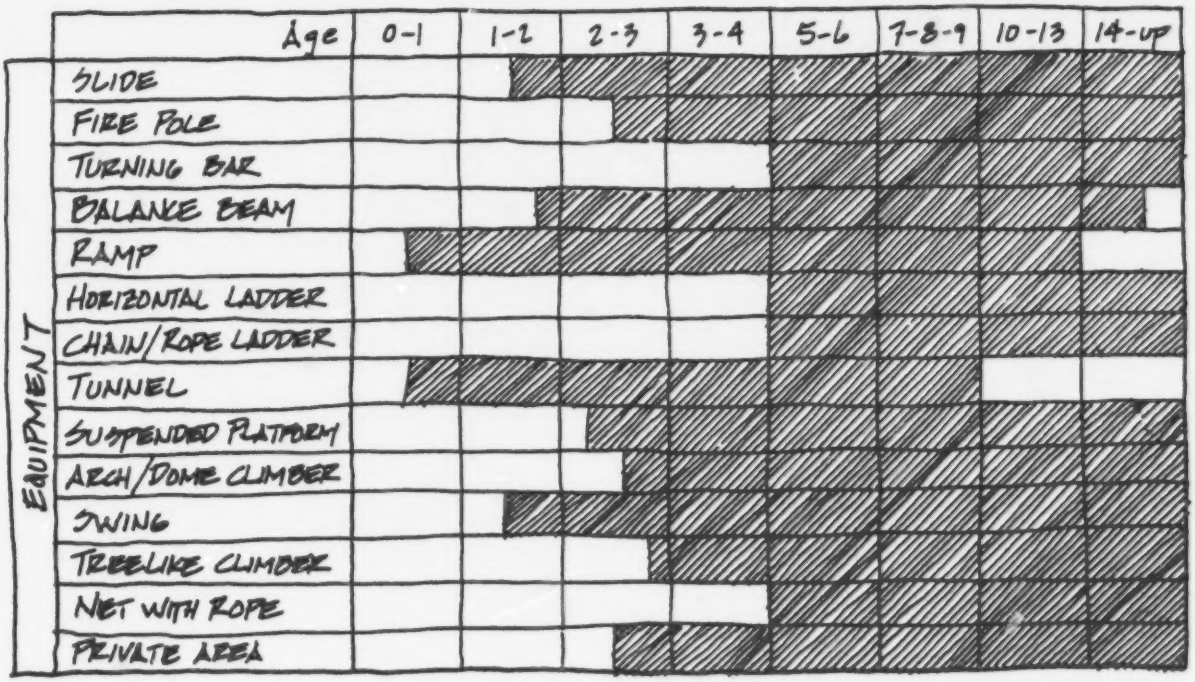


SIZE AND AGE RANGES FOR USE OF PLAY EQUIPMENT



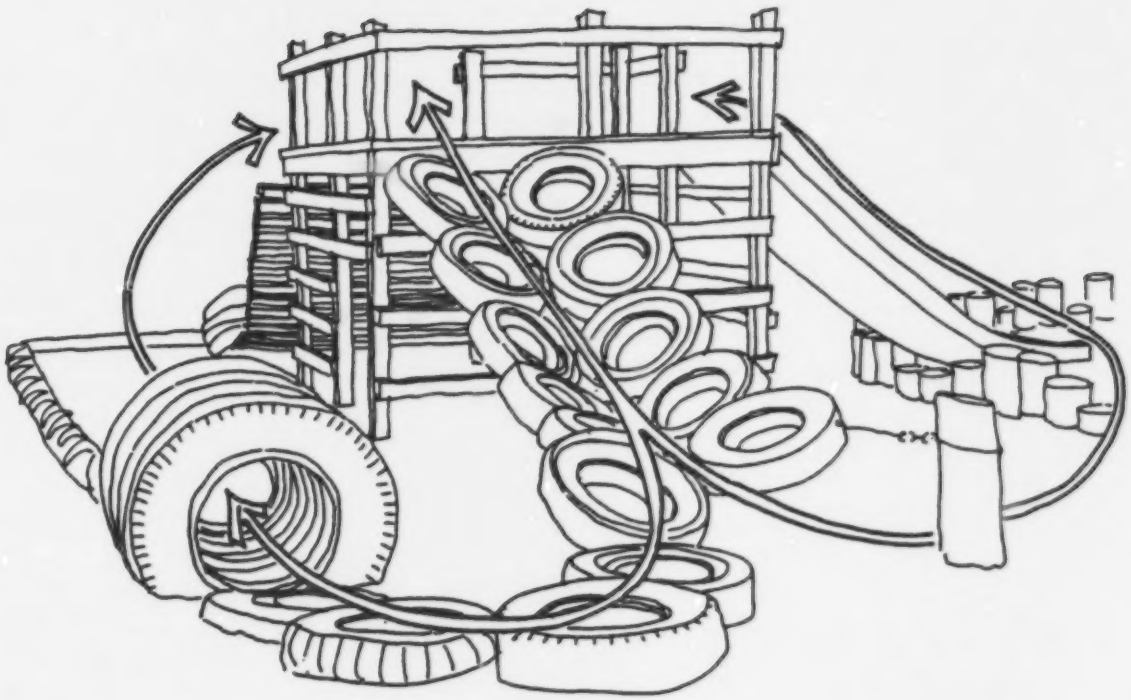
A	HORIZONTAL LADDER	5'(1.53m) HIGH
B	BAR SPACING	12" (.30m) APART
C	CRAWL SPACE	20"(.50m) HIGH AND WIDE
D	STEP HEIGHT	12"(.30m) HIGH
E	SAFETY-RAIL HEIGHT	34"(.86m) DECK TO TOP OF RAIL
F	FIRE-POLE REACH	16"(.40m) OUT

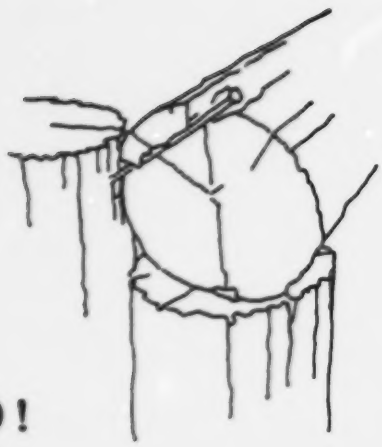
FOR THE AVERAGE 6 YEAR OLD - MAKE EQUIPMENT 10% LARGER PER ADDED YEAR OF AGE.



ADAPTED FROM: BUILD YOUR OWN PLAYGROUND, HEWES, J.J., 1975.

- The climbing structure should be conceived as being part of a "circuit" allowing numerous ways to move and explore. Every level should have optional ways of leaving (up or down). You should be able to climb, jump, slide, or swing from every level.

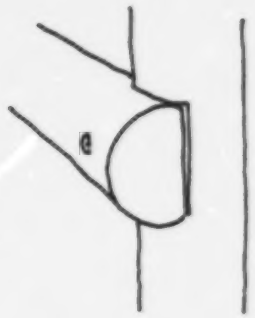


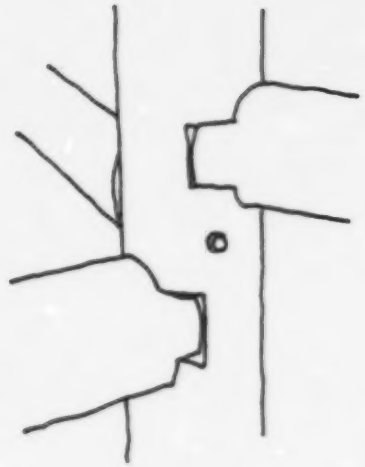


NO!

CONNECTIONS MUST BE MADE SECURE. JOINTS SHAPED/BOLTED.

YES!





- The first level of any high or potentially dangerous climbing structure should be inaccessible to children who have not as yet fully developed motor skills or sense of balance.

- Surfaces under climbing structures should be of a "soft" or loose material to cushion falls and prevent injury. Sand, pea gravel, or leaf mulch are acceptable materials to use.

- Curbs, walls, or other play equipment should be kept at a safe distance from climbing structures to prevent injury when falling off or leaving the structure.

- Railing, ladders, decking, and supporting members should be securely fastened. Loose or broken boards are an unnecessary safety hazard in the play space. Where possible and reasonable, use nuts/bolts instead of nails. The nuts/bolts should be countersunk and holes plugged. Round members should be shaped to make a stable and secure connection where they meet supporting members.

- As a general rule of thumb, posts used for the support of structures should be set into the ground at least 20% of its total length. Free standing posts (such as a support for a tire net) should be set in the ground at least 30% of the total length.

- Concrete should not be used as a backfill material around posts anchored into the ground. As the wood shrinks, water will get in between the concrete and the wood and cause rotting. A mixture of sand and gravel should be used as a backfill material around wood posts. As well, the concrete may become exposed above the ground surface and become a hazard to children tripping or falling.

- Ease 3/4" radius on all wood edges to improve weathering qualities and prevent splintering.

HILLS

General Comments: Here on the "flat" prairies a change in elevation becomes a challenge to climb or a special feature to have fun on. Hills have shown themselves to be popular and stimulating pieces of play "equipment". In new communities, it is possible to construct them with material from excavations. Where it is not possible or desirable to construct them on a permanent basis, hills can be constructed out of snow on a temporary basis during the winter months.

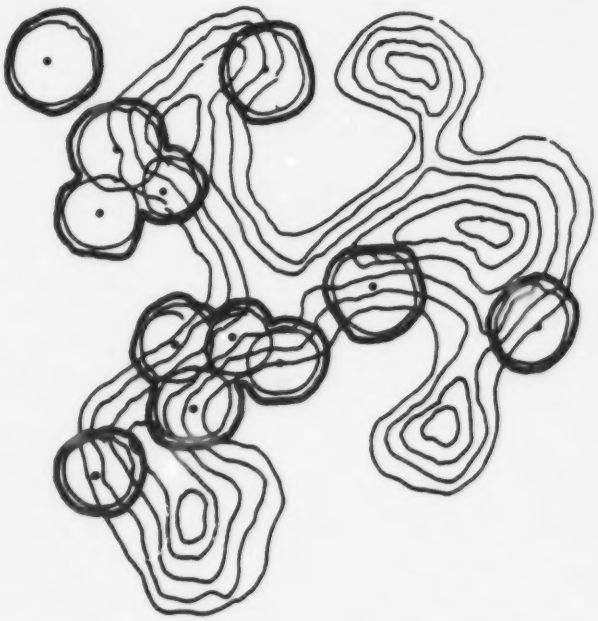
Design Considerations:

- Hills should be constructed so they may be used throughout the year. Slopes should not end abruptly against vertical surfaces, at the edge of streets or parking lots, or be cluttered with objects that can present serious obstacles or hazards during the winter months.

- Do not make just one large hill. A small group of agressive children will dominate the space. Make a series of interconnected mounds of varying heights to spread the play activity out and to provide the opportunity for a circuit of movement.

- Hills can be used for wind protection. Locate them in a position to block the prevailing winter winds.

- Hills can be used as space forming elements. Rather than a single hill or linear series of mounds develop an interconnected loop. A circuit of play activity will result, as well as the creation of an interior space for play sheltered from the wind.



- Use hills to block noise and views, buffer conflicted activities, and control pedestrian traffic patterns through the play space. Use smaller hills to discourage heavy traffic from disrupting play activities.

- During the winter months be sure that snow brought in from off-site to build hills is free of debris. Snow removed from streets often contains sand, gravel or other sharp objects. This becomes a hazard to children and their clothing during sliding and digging.

- When clearing snow from the site to construct hills, be sure to leave a cover of snow over the turf area. Exposed turf will burn out in the winter wind and sun, and you will have to re-seed or sod the area the following spring.

- Be sure that snow hills are located in an area that will drain well in the spring. When all that snow melts it has to go somewhere and if drainage is not provided the play space will become a lake or muddy mess. Playing fields will not be available until much later in the season.

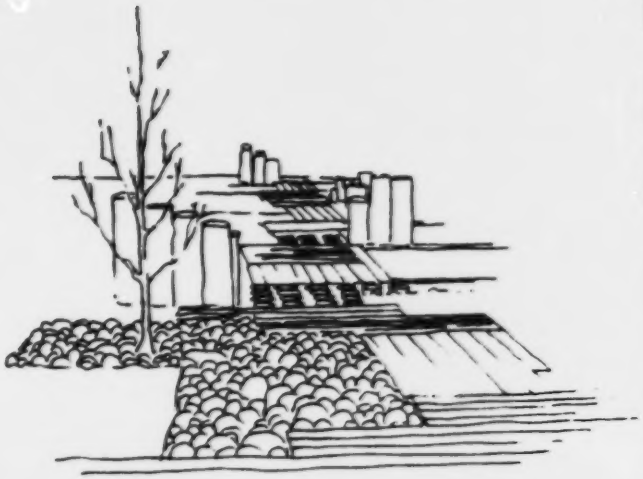
- Temporary snow hills should not be located near parking lots or at the edges of heavily travelled streets. Hills that occur as a result of the clearing of parking lots should be moved far enough away so that play is directed away from the parking area.

SURFACES

General Comments:

Different types of surface materials are necessary to facilitate different forms of play. The ideal playground has a diversity of surfaces:

- smooth and flat for court games or skating; steep surfaces for sliding or sledding; or rough and bumpy surfaces for climbing.



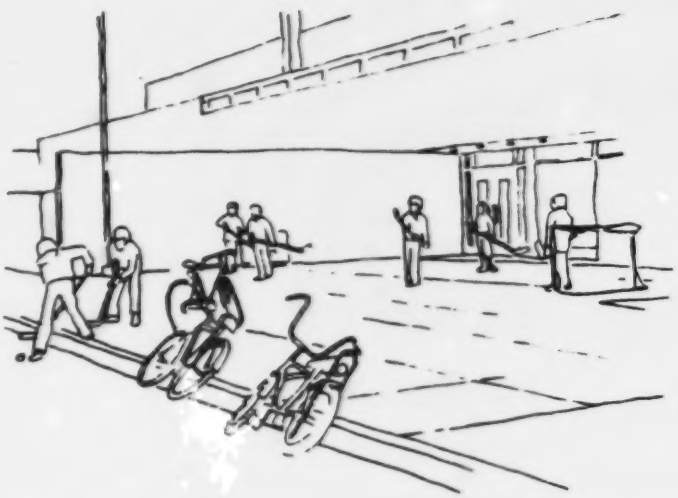
Design Considerations:

- Flat areas are needed for most organized games. A minimum slope of 1.5% is necessary to assure proper drainage in wet weather. Be sure there is sufficient paved or well – drained surfaces to allow outdoor use in wet weather.

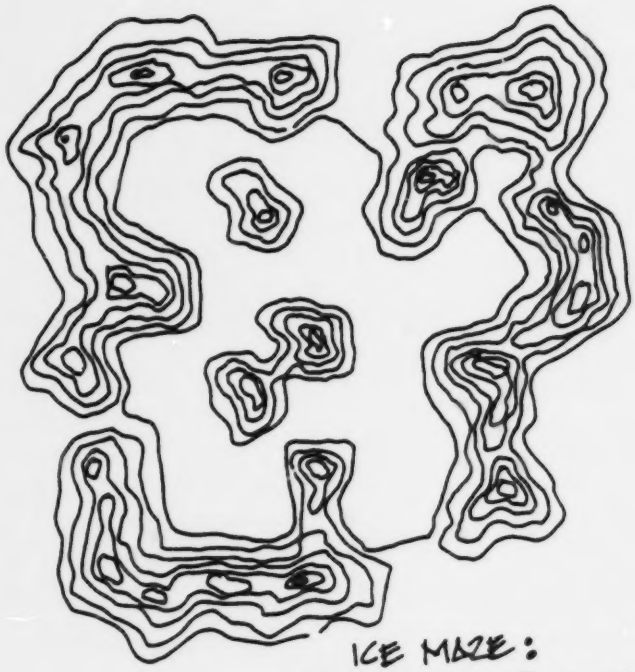
- Loose materials such as pea gravel should not be allowed to "spill over" onto hard paved playing surfaces. It's like running on marbles. Keep loose material away from walkways and game surfaces, and contained within curbs or walls.

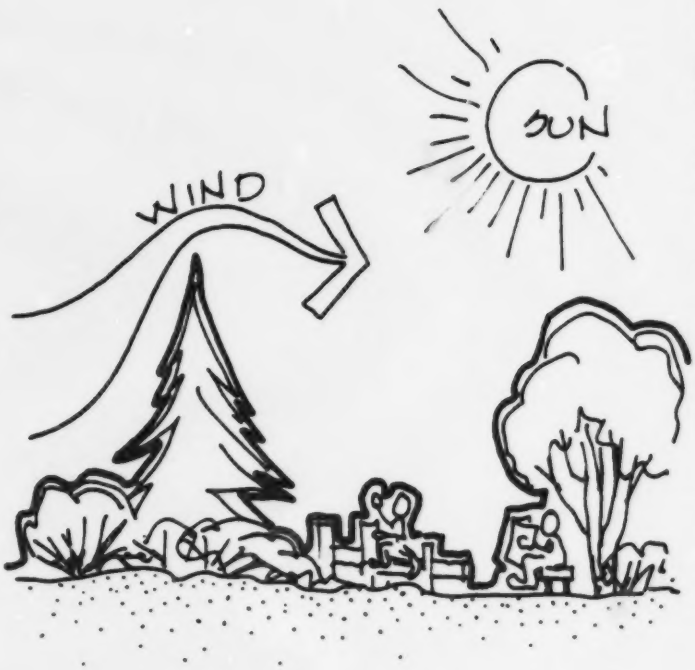
- There should be hard, smooth surfaces to allow accessibility by handicapped children to the playground. Such surfaces should be wide enough to allow a wheelchair to turn around and flat enough (no more than 8.5% slope) to allow easy movement.

- Grass is still one of the best and most serviceable surface materials to use in a play space. Children can run, wrestle or roll across the surface without harm to either themselves or the grass. The grassed area should be sloped slightly (2%) to prevent the puddling of water in wet weather and kept free of sharp objects such as broken glass stones or sticks.



- During the winter months ice areas intended for free skating or younger childrens' play should not be of a size or form to allow the playing of hockey. Such areas should either be made smaller, be made serpentine in form or contain sufficient obstacles to inhibit the playing of more aggressive ice sports.





- Areas intended to be flooded for ice skating should be located over level, hard paved surfaces with suitable drainage for water runoff during the spring thaw. These areas of hard surface (concrete, asphalt) can be easily cleared of snow and flooded without fear of damage to underlying turf. Grass surfaces under ice areas are generally killed off due to the lack of a sufficient insulating winter cover and the large amounts of standing water in the spring.

- Special surfaces created for skating or sliding should be kept away from pedestrian walkways and entry points to buildings.

PLANTS

General Comments: Plants not only add colorful seasonal interest to a play space, but more importantly they serve very important functional roles as well. They are helpful in controlling microclimate by blocking the sun, wind and rain. By absorbing sunlight and providing shade, plants reduce the temperature of a play space. As well, they control glare and reflection and provide excellent noise and visual buffers.

Design Consideration:

- Deciduous trees should be planted on the south edge of play areas to provide summer shade while allowing winter sun penetration. Trees can reduce the effect of reflected heat from hot, paved surfaces. Evergreen material makes a more effective windbreak and snow collector than deciduous material. Shrubs and small trees are more effective windbreaks for small children than large canopy trees. They are also more effective at causing snow drifting in childrens' play spaces.

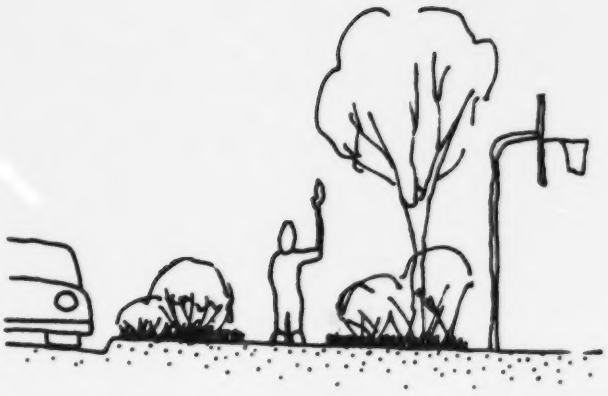
- Planting can be used to mark boundaries or be used to keep pedestrian traffic out of an area. Low and dense planting can also provide an excellent barrier to hazardous areas such as streets or parking lots.

- Planting on and around play spaces should include species that are of special interest and useful in environmental education: such as plants that are edible or of special value to bird or wildlife species.

- Plant material should never be planted singly or at the edge or midst of an active play space. In these locations small trees become play objects and are easily damaged or destroyed. It is better to group plants in masses of mixed trees and shrubs for greater protection. The shrub material should be located at the outer edges of the mass to provide a protective buffer for the trees. It is easier and cheaper to replace shrubs, and generally they are in need of the pruning they will be getting from the children.

- Planted areas next to hard surfaces such as game courts or walkways should have curbed edges or fences for protection.

- Trees and shrubs planted in play spaces should be selected according to their hardiness and durability. Native species have a natural hardiness and are generally hardier than non-native species. Planting hardy native trees and shrubs means lower maintenance and replacement costs.



- Plants with thorns (Roses, Hawthorns, Russian Olive) should not be planted near play spaces for smaller children. They should be kept to the perimeter of the site where they can serve as an effective and attractive traffic barrier.

- Trees and shrubs should never be planted on or near the tops of mounds. They will not get the necessary moisture and nutrients for growth nor survive the winter sliding and play activity that occurs on mounds. Remember that plants are more brittle in winter and are more susceptible to damage.

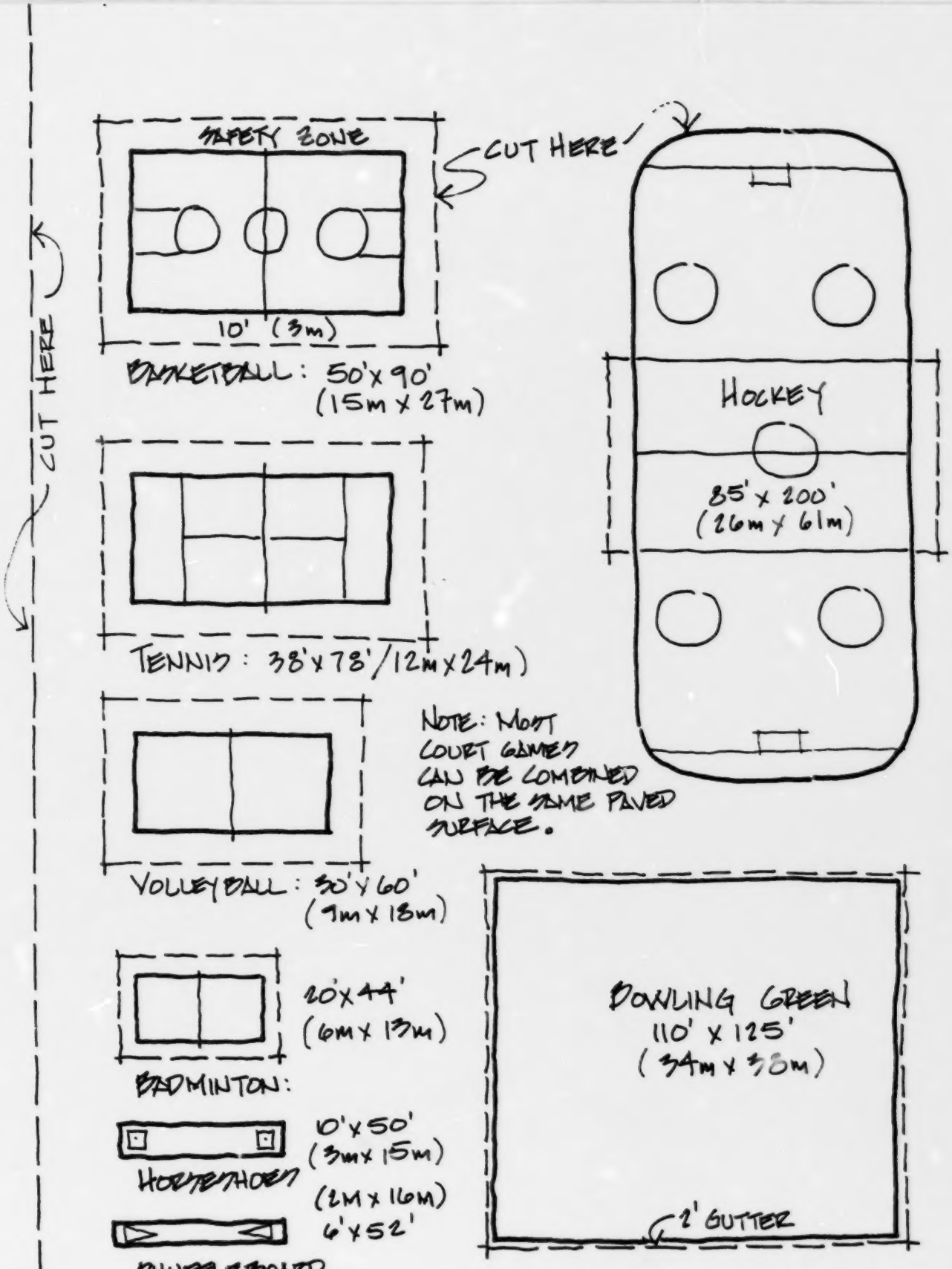
appendix a.

PLAY SPACE "CUT OUTS"

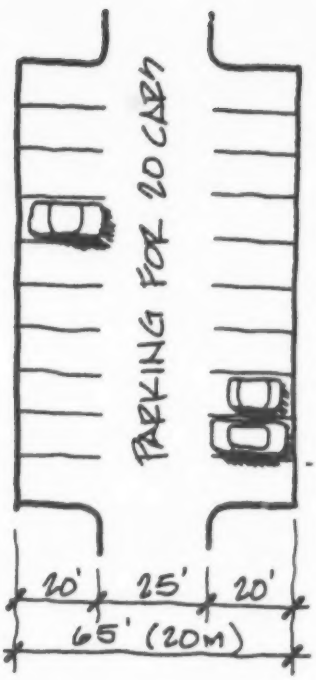
Included here are scaled plans for some of the more typical recreation activities found in community parks. The field dimensions for many of these activities can be altered to fit available space as long as the facility is not used for competitions or tournament purposes. Dimensions have been converted to the nearest full meter and do not include the dimensions of "safety zones" (the dashed lines on each plan). One source for this planning/design information is Outdoor Sports Facilities. New York: Drake Publishers, 1978.

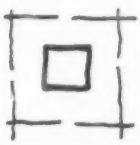
These plans should be cut out and moved around on a scaled drawing of the proposed community recreation space in order to study and determine the best relationships for a final site plan. The amount of space these activities actually take up will probably surprise you.

The scale of these plans are:
1 inch = 40 feet (1:500m)


CUT HERE
SAFETY ZONE
CUT HERE
10' (3m)
BASKETBALL: 50'x90'
(15m x 27m)
HOCKEY
85' x 200'
(26m x 61m)
TENNIS: 38'x78'/12m x 24m)
NOTE: MOST COURT GAMES CAN BE COMBINED ON THE SAME PAVED SURFACE.
VOLLEYBALL: 30'x60'
(9m x 18m)
20'x44'
(6m x 13m)
BADMINTON:
10'x50'
(3m x 15m)
HORSESHOES
(2M x 16M)
6'x52'
SHUFFLEBOARD
BOWLING GREEN
110' x 125'
(34m x 38m)
2' GUTTER

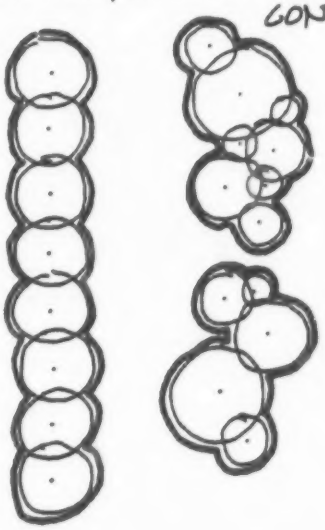
CUT HERE





GARBAGE PICK-UP

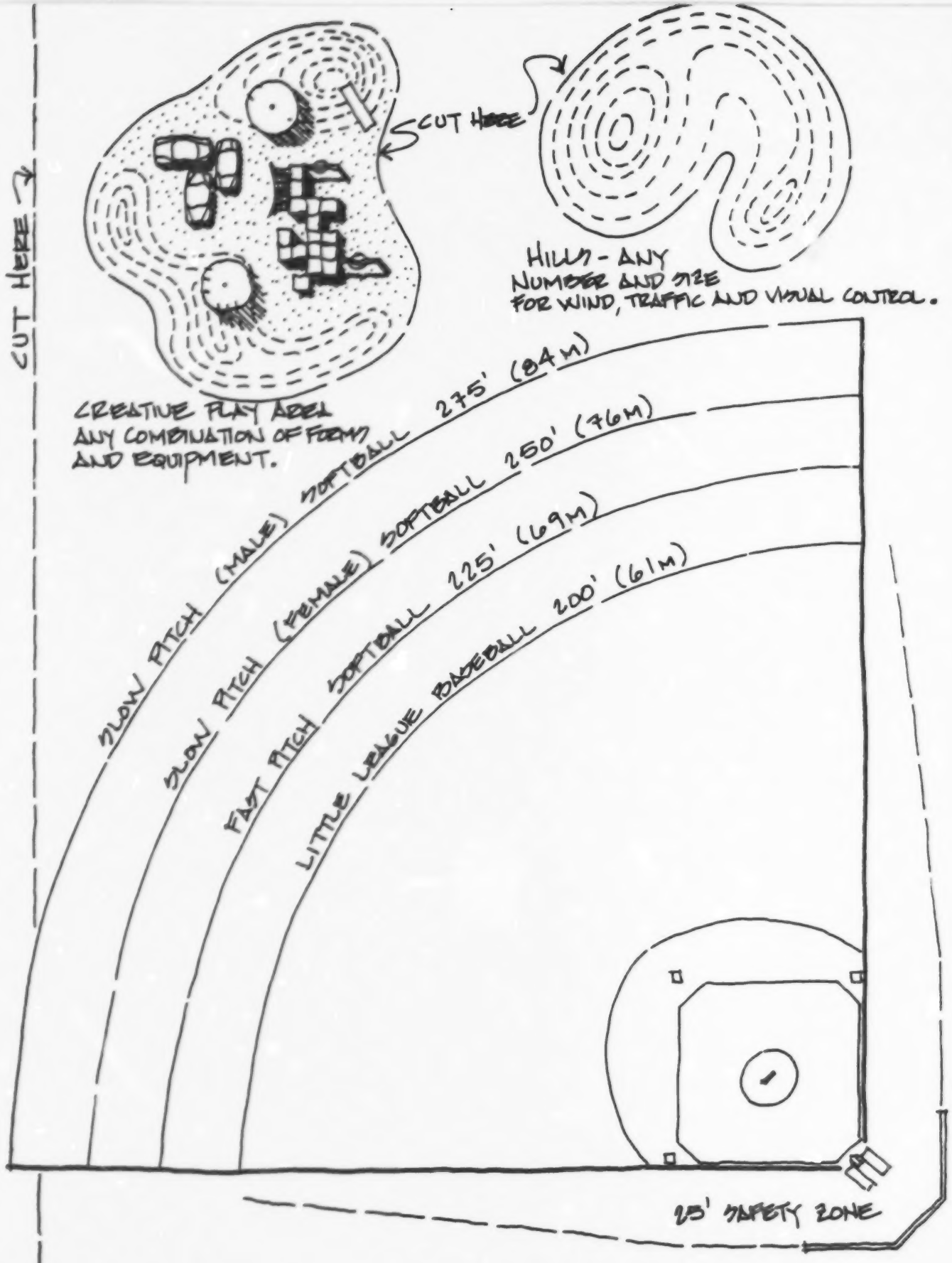
TREES/SHRUBS – ANY COMPOSITION AND NUMBER. FOR SUN, WIND, & VISUAL CONTROL.



CUT HERE

(MINIMUM DIMENSIONS ILLUSTRATED)

REMEMBER TO DETERMINE THE AGE GROUPS PLAYING THE SPORT. SMALLER CHILDREN CAN USE HALF FIELD DIMENSIONS TO PLAY ON.


CUT HERE
CUT HERE
HILLS - ANY NUMBER AND SIZE FOR WIND, TRAFFIC AND VISUAL CONTROL.
CREATIVE PLAY AREA ANY COMBINATION OF FORMS AND EQUIPMENT.
SLOW PITCH (MALE) SOFTBALL 275' (84M)
SLOW PITCH (FEMALE) SOFTBALL 250' (76M)
FAST PITCH SOFTBALL 225' (69M)
LITTLE LEAGUE BASEBALL 200' (61M)
25' SAFETY ZONE

appendix b.

SAMPLE COVER LETTER, QUESTIONNAIRES AND DRAWING EXERCISE

To assist community groups in conducting their inventory and neighborhood survey included here are copies of a:

- Cover letter
- Neighborhood Questionnaire
- Teaching Staff Questionnaire
- Student Questionnaire
- Student Drawing Exercise

Community groups should modify this information to fit their own circumstances and objectives. It must be noted that these questionnaires have been used many times by numerous community groups, and have been successful in gathering the information needed by planning committees.

Dear Neighbour:

Over the past few months the parents committee at Castle School have been discussing with the Parks & Recreation Department the plans for the development of the Park. The first phase of development set for construction during the spring includes the development of:

1 Baseball field with backstop
1 Soccer field with goal posts
Mounds for future creative play area
Trees on perimeter and within Creative Play area
Sod 4 acres
Seed 4 acres

Before any further work is agreed upon for implementation in the subsequent phases of park development, the Castle School Parents Committee together with the Parks & Recreation Department, wishes your comments and input into the planning/design process. The program for the future phases of park development has been already outlined by the Parks & Recreation Department, (see questionnaire), but they are open to your thoughts and suggestions!

Please complete the enclosed questionnaire and return it within a week's time.

Sincerely yours,

Castle Park Committee

/eev
Enclosure

NEIGHBOURHOOD QUESTIONNAIRE

1. If you are interested in more active participation in the development of the park list your name and phone number.

_____

2. Which of the following activities do you most enjoy?

Summer Activities (choose no more than three)

- nature study/appreciation
- walking, strolling
- sitting in a quiet place
- accompanying/babysitting children
- lawn bowling
- tennis
- riding bicycles
- fitness activity (jogging, running)
- watching and viewing activities (sports, games)
- informal games and sports
  - Please Specify: _____
- organized team sports
  - Please Specify: _____
- others
  - Please Specify: _____

Winter Activities (choose no more than three)

- nature study/appreciation
- strolling, walking
- jogging, running
- tobogganing, sledding, sliding
- cross-country skiing
- skating and informal ice sports
- organized ice sports (hockey, broomball)
- others
  - Please Specify: _____
    _____

3. Name and describe an outdoor place near your home that you go to often:

_____

_____

_____

4. When you choose an outdoor place to go to near your home, which of the following is most important? (Rank only three, in their order of importance.)

A well supervised place.
Feeling like you belonged there.
Getting away from people.
How the place looks.
Nature (trees, grass, birds, etc.)
People you like to be with
Places for activities you enjoy.
Upkeep of equipment and grounds.
Your physical comfort.
A busy place with many people having fun.
Other.

Please
Specify: _____

5. What were the most memorable or outstanding features of the "place" you played as a child?

Summer place: _____

_____

Winter place: _____

_____

6. Do you feel there are adequate recreation facilites in your community?

_____

_____

If not, why not? _____

_____

7. From your point of view, what changes or additions do you think should be made to the schoolground, to serve you or your children's needs better (in this and the next question let your imagination run wild; we need your ideas).

_____

_____

_____

8. Do you think the school grounds should be redeveloped to serve the needs of the surrounding community, as well as those of the school? If so, how could this be best accomplished? _____

_____

_____

9. Do you think there are particular things related to the school curriculum that the school grounds could/should be used for?

_____

_____

_____

10. Please use this space to say anything else on your mind that has not been covered above.

Sample Cover Letter for Teaching Staff Questionnaire

Dear Teacher:

During the past few months there has been much discussion of the Recreation Department's plans for the development of Castle School Playground. The plans for phase one are set and are to be implemented during the spring months. Essentially, they include "dressing up" the playground with a few trees, grass, mounds, soccer goal posts and a baseball backstop. What happens in the future is open to debate. However, since future plans will be affected by information gathered through the completion of the questionnaires, your participation and assistance are considered valuable to us.

It is essential for the user (your students) to take part in the planning and design of this playground. Therefore, we ask that you have your students complete either the "student questionnaire" and/or "drawing" exercise, whichever is appropriate for your age group. In addition, please have your students take the "parent questionnaire" home for their parents to complete and return.

We have also enclosed a "teachers questionnaire" and would greatly appreciate your thoughts and comments on the subject.

Please complete the questionnaire and keep it together with the "student" and "parent" questionnaires which will be picked up from you by the end of the month.

Your efforts and assistance in making this a successful project are most sincerely appreciated.

Yours sincerely,

The Playground Committee

SCHOOL PLAYGROUND PROJECT

TEACHING STAFF QUESTIONNAIRE

1. Grade(s) you teach _____ other role(s) _____ sex _____
   Number of years at this school _____
   Do you serve on playground duty? _____How often? _____

2. What are some of the good aspects of the playground?
   a) in winter
   b) in spring/fall

3. What are some of the bad aspects of the playground?
   a) in winter
   b) in spring/fall

4. From the children's point of view, what changes or additions do you think should be made to the playground, to serve their needs better (in this and the next question, let your imagination run wild; we need your ideas).

5. Putting on your pedagogical hat now, what changes or additions should be made to the playground so that it might serve the needs of the educational curriculum better (all suggestions large and small are welcome).

6. If you could introduce one new thing or aspect into the playground, what would it be?

7. a) Do you think the playground should be redeveloped to serve the needs of the surrounding community, as well as those of the school?

   b) If so, how could this be best accomplished?

8. Please use this space to share any further thoughts you may have not yet covered.

SCHOOL PLAYGROUND PROJECT

STUDENT QUESTIONNAIRE

NOTE: Teacher should complete on behalf of students who cannot write - Thanks.

Name: _____ Teacher: _____ Room: _____

Age: _____ Grade: _____ Girl: _____ Boy: _____

1. What is your favorite place in the playground?
   a) in winter:
   b) in spring/summer:

2. What is your favorite thing to do in the playground?
   a) in winter:
   b) in spring/summer:

3. How do you feel when you are out in the playground?
   a) in winter:
   b) in spring/summer:

4. What do you like most about the playground?

5. What do you dislike most about the playground?

6. What would you like to see added to the playground?

7. What would you like to see changed in the playground?

8. Do you use the playground after school? (Underline the right answer below.)
   Every Day Most Days Some Days Once in a while Never

9. Do you use the playground on weekends? (Underline the right answer below.)

Every weekend
Most weekends
Some weekends
Once in a while
Never

Please RETURN the completed questionnaires to your teacher.

SCHOOL PLAYGROUND PROJECT

STUDENT DRAWING EXERCISES

Dear Classroom teacher:

The following should be treated as two separate assignments, probably conducted on two separate occasions. Both times each child should be supplied with a sheet of plain paper 18" X 24" approx.) a pencil and/or wax crayons to draw with. It is important for you not to prejudice the students ideas by making suggestions beforehand as to what might be developed on the playground. Children should be spread around the classroom to avoid taking ideas from each other as much as possible. We want individual contributions on these exercises. Please allow enough time for children to finish, probably up to 40 minutes on Exercise Two.

Exercise One

Ask each child to make a drawing of the playground as it currently exists in winter, spring or fall seasons, -- saying which season it is.

Exercise Two

Ask each child to make a drawing of the playground as they wish it could be (anything goes!) Again they can concentrate on the winter, spring or fall season -- saying which season it is.

Please make sure each child writes her/his name, teacher's name and room number in the top right hand corner of the back side. Someone from the playground committee will pick up these drawings together with the questionnaires.

Many thanks.

p.s. beyond these two basic exercises, anyone wanting to go further with additional projects, designs, models, etc. of what you would like to see happen on the playground is encouraged to do so.

appendix c.

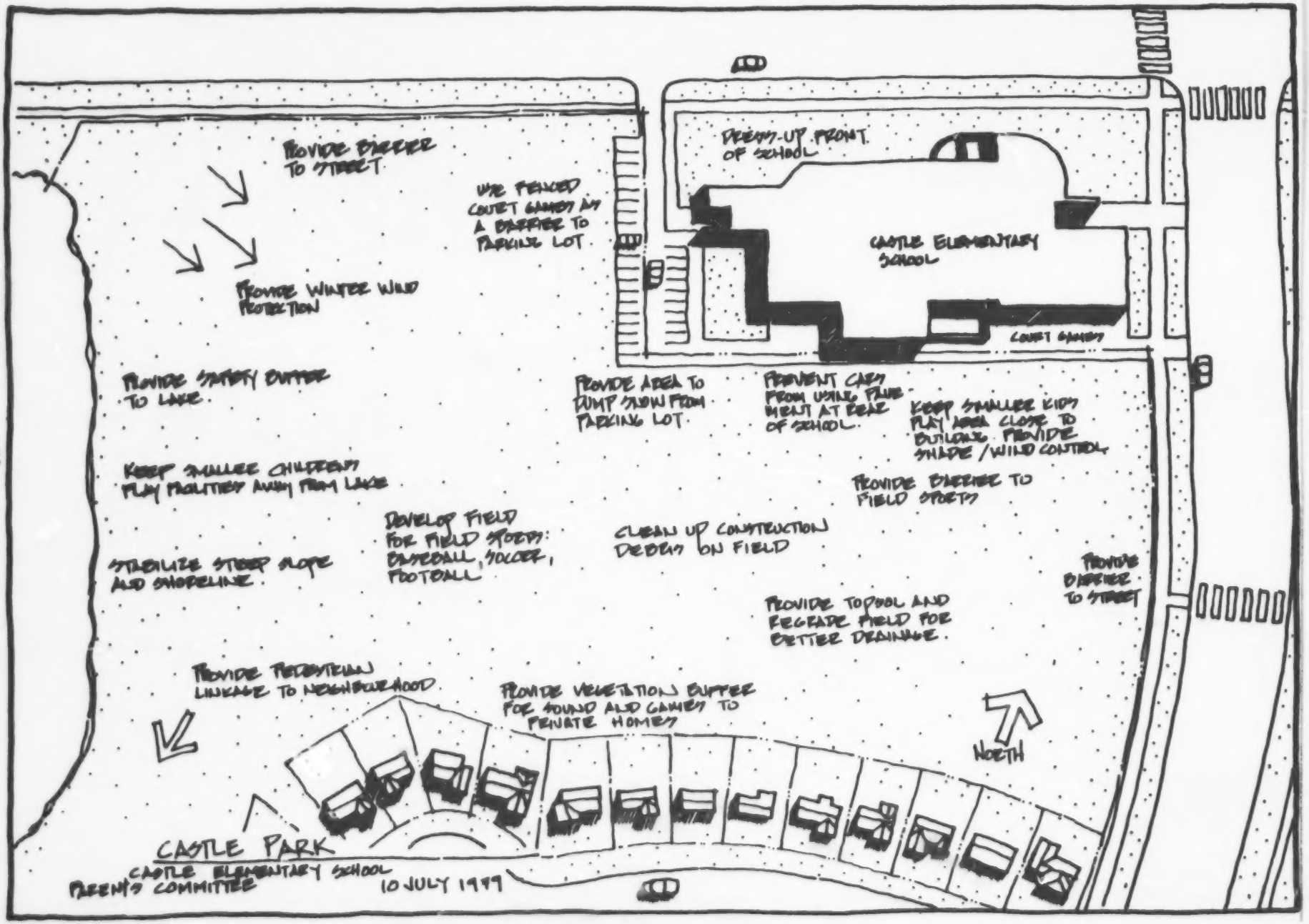
SAMPLE SITE PLANS

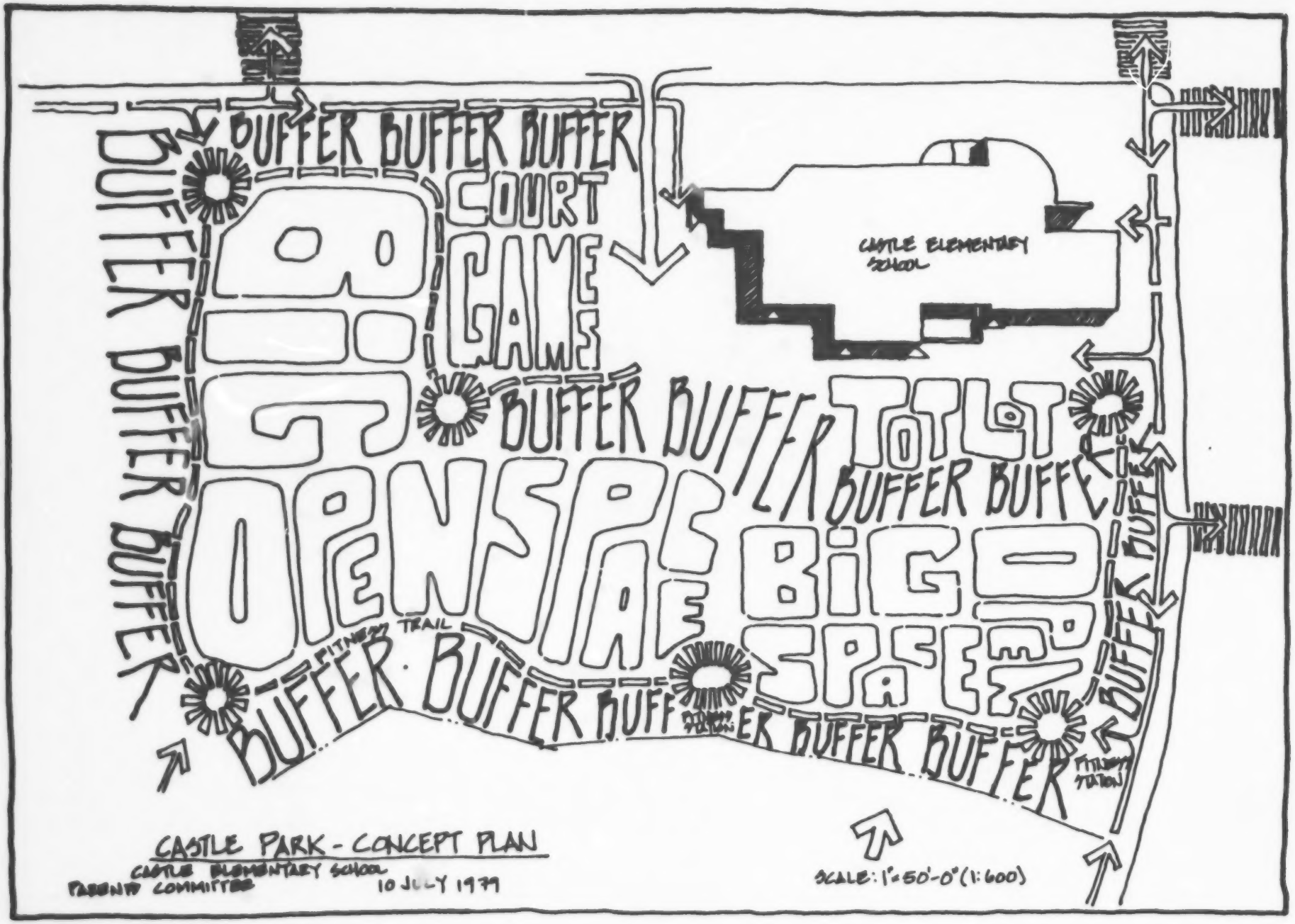
The following drawings illustrate the type of information and format of presentation required by most public agencies when submitting play space projects for approvals.

- Site Inventory Plan
- Site Concept Plan
- Site Development Plan (Phase I)
- Site Development Plan (Phase II & III)

The scales of these plans vary according to the size of the particular project being developed by the community group or by the scale of available base information. Generally the following scales are appropriate and will show adequate detail:

- Site development Plan
  1" = 40' (1:500m)
- Detailed Area Plans
  1" = 20' (1:250m)

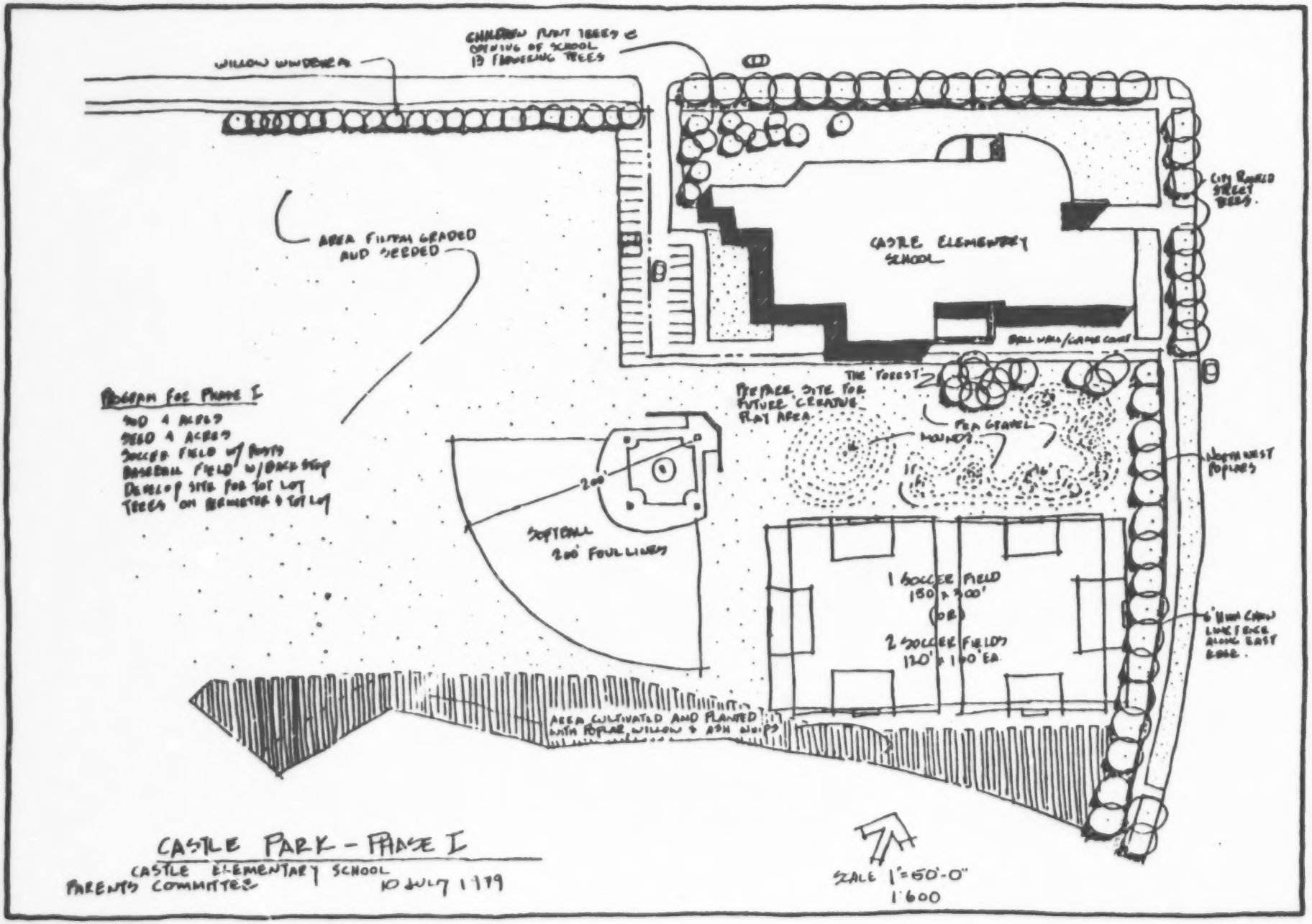

PROVIDE BARRIER TO STREET
USE FENCED COURT GAMES AS A BARRIER TO PARKING LOT
PROVIDE WINTER WIND PROTECTION
PROVIDE SAFETY BUFFER TO LAKE
KEEP SMALLER CHILDREN'S PLAY FACILITIES AWAY FROM LAKE
STABILIZE STEEP SLOPE AND SHORELINE
DEVELOP FIELD FOR FIELD SPORTS: BASEBALL, SOCCER, FOOTBALL
PROVIDE AREA TO DUMP SNOW FROM PARKING LOT
CLEAN UP CONSTRUCTION DEBRIS ON FIELD
PREEM-UP FRONT OF SCHOOL
CASTLE ELEMENTARY SCHOOL
COURT GAMES
PREVENT CARS FROM USING PLOW HEAD AT REAR OF SCHOOL
KEEP SMALLER KIDS PLAY AREA CLOSE TO BUILDING. PROVIDE SHADE / WIND CONTROL
PROVIDE BARRIER TO FIELD SPORTS
PROVIDE TOPSOIL AND REGRADE FIELD FOR BETTER DRAINAGE
PROVIDE BARRIER TO STREET
PROVIDE PEDESTRIAN LINKAGE TO NEIGHBOURHOOD
PROVIDE VEGETATION BUFFER FOR SOUND AND GAMES TO PRIVATE HOMES
NORTH
CASTLE PARK
CASTLE ELEMENTARY SCHOOL
PLANNING COMMITTEE
10 JULY 1979



CASTLE PARK - CONCEPT PLAN

CASTLE ELEMENTARY SCHOOL
PARENT COMMITTEE 10 JULY 1979

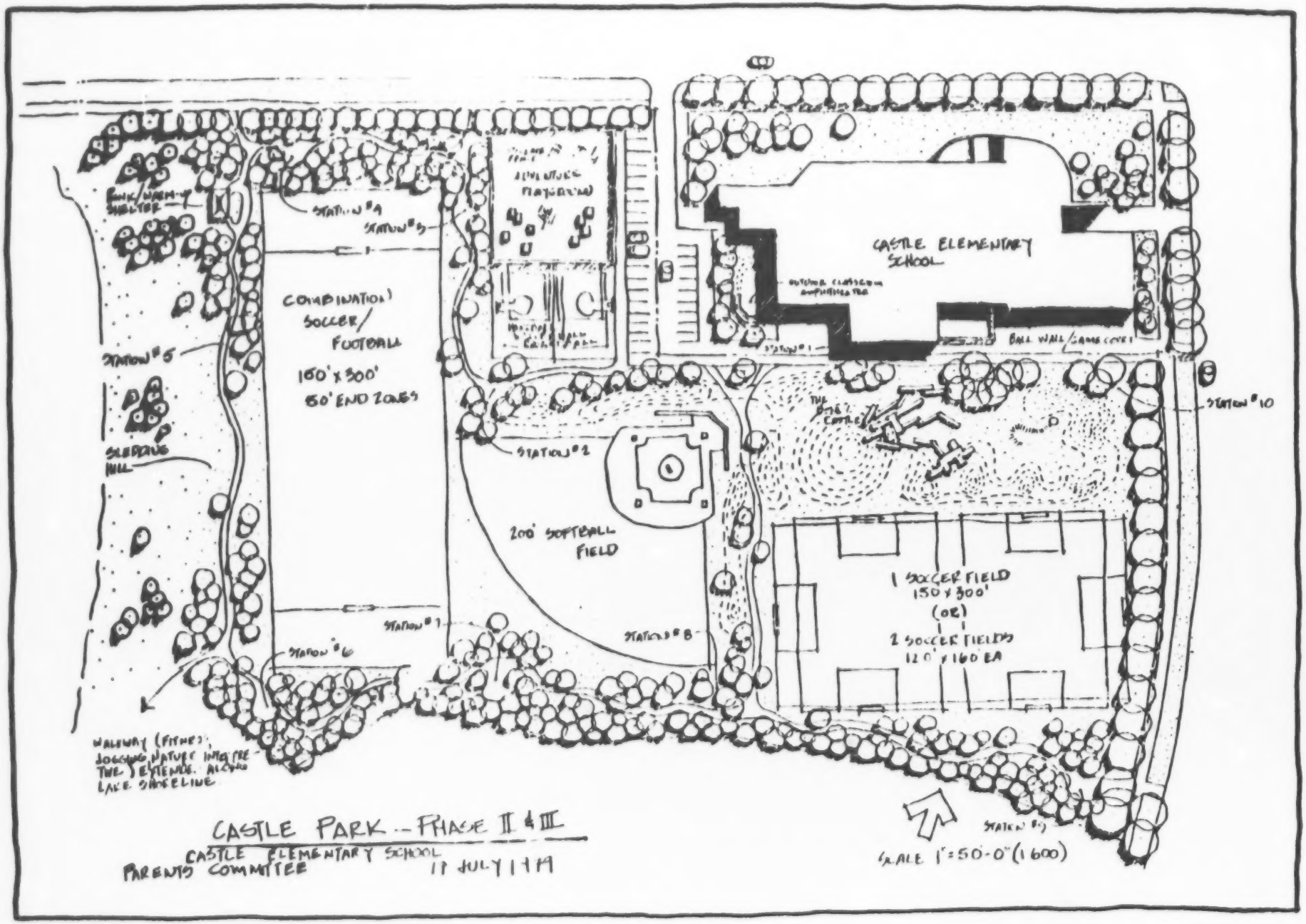
SCALE: 1"=50'-0" (1:600)


CHILDREN PLANT TREES @ OPENING OF SCHOOL 13 FLOWERING TREES
WILLOW WINDBREAK
AREA FILLTOP GRADED AND SEEDED
CASTLE ELEMENTARY SCHOOL
BALL WALL/LARGE COURT
CITY PLANTED STREET TREES
THE FOREST
PREPARE SITE FOR FUTURE CREATIVE PLAY AREA
PEA GRAVEL MOUNDS
NORTH WEST POPLARS
PROGRAM FOR PHASE I
SOD 4 ACRES
SEED 4 ACRES
SOCCER FIELD W/ GOALS
BASEBALL FIELD W/ BACK STOP
DEVELOP SITE FOR TOT LOT
TREES ON PERIMETER & TOT LOT
200'
SOFTBALL 200' FOULLINES
1 SOCCER FIELD 150' x 300'
OR
2 SOCCER FIELDS 120' x 180' EA
6' HIGH CHAIN LINK FENCE ALONG EAST EDGE.
AREA CULTIVATED AND PLANTED WITH POPLAR, WILLOW & ASH WHIPS

CASTLE PARK - PHASE I

CASTLE ELEMENTARY SCHOOL
PARENTS COMMITTEE 10 JULY 1979

SCALE 1"=50'-0"
1:600



CASTLE PARK -- PHASE II & III

CASTLE ELEMENTARY SCHOOL
PARENTS COMMITTEE 17 JULY 1979

appendix d.

AUDIO/VISUAL RESOURCES

The following resources are available from the Manitoba Department of Education, Library Services, 411-1181 Portage Avenue, Winnipeg.

Grounds for Learning: The School Site as an Educational Resource. American Association for Health, Physical Education and Recreation, Wash. D.C., 1973. Audiotape cassette, 80 slides in carousel, w/script.

The Environmental Yard: Creating a Neighborhood/School Resource Area. (Washington Elementary School, Berkeley, Calif.) Produced on a grant from Ortho, Chevron Chemical Company. 3 audiotape cassettes, 3 film strips.

Creative Playgrounds. Manitoba Department of Education, Curriculum Services (Physical Education), 411-1181 Portage Avenue, Winnipeg, R3T 0T3. 3 slide carousels, with text.

Carousel #1, Metro Winnipeg
" 2, Rural Manitoba
" 3, Fitness Trails

The following resource is available from regional consultants, Department of Culture, Heritage and Recreation, Province of Manitoba.

The Design of Creative Play Spaces. Department of Culture, Heritage and Recreation, Province of Manitoba, (in Cooperation with the Department of Landscape Architecture, University of Manitoba). Audiotape cassette, 80 slides in carousel, with script.

The following resources are available upon request from Children's Environments Advisory Service (C.E.A.S.), Canada Mortgage and Housing Corporation, Head Office, Ottawa, Ontario K1A 0P7.

Slide Sets

Planning Play Spaces for Young Children

74 slides produced by C.E.A.S. Shows the important considerations when planning play spaces for young children. A variety of possible types and contents of play spaces for young children are displayed in this set of slides.

OUR CHILDREN'S ENVIRONMENTS

53 slides produced by C.E.A.S. Tape cassette and script. This presentation makes the argument for major changes in the approach to the type of play environments children are being provided with today. Examples of both good and bad environments are shown. Suitable as a means of stimulating group discussion.

A CREATIVE PLAYGROUNG - WHAT'S THAT?

78 slides produced by C.E.A.S. Script and tape cassette. Depicts some of the basic elements of responsive outdoor play environments, focusing on creative-type playgrounds. Different alternatives are selected that encourage active physical, social and creative play, such as climbing structures, playhouses, manipulative materials. Suitable for all those planning creative-type play spaces.

AN ADVENTURE PLAYGROUND - WHAT'S THAT?

Produced by C.E.A.S. Script and tape cassette. Explanation of the principle and purpose behind adventure playgrounds. Slides from both Europe and Canada showing children building huts, forts, dens, tree houses; climbing towers; lighting fires; cooking; gardening; and keeping animals.

Films

WHERE DO CREATIVE CHILDREN PLAY?

5 minutes; color; 16mm.

Produced by C.E.A.S. and filmed in Canada, this short film presents the concept of creative play environments in the urban context. It can be used most effectively to raise awareness of the issue, and in conjunction with other materials, to stimulate a discussion of the development of creative play environments to meet the needs of children.

WHERE CAN CITY KIDS FIND ADVENTURE?

5 minutes; color; 16mm.

Produced by C.E.A.S. and filmed in Canada, this short film presents the concept of adventure playgrounds for urban children. It can be used most effectively to raise awareness of this type of play, and in conjunction with other materials, to stimulate a discussion of the development of adventure playgrounds for older children.

appendix e.

PLANNING CHECK-LIST

As an aid to community groups, the following summarizes in a check-list form the important points to consider in the planning/design process. A more thorough explanation of each step can be found in the section of this report entitled "Planning Process".

1. Set Goals and Objectives.
   - Does the written proposal clearly answer the three fundamental questions:

What is the project?	Yes	No
Who is it for?	Yes	No
Why are we doing it?	Yes	No

2. Form a Planning Committee.
   - Is there representation on the planning committee from all user and interest groups affected by the project? Yes No
   - Are the children involved? Yes No

3. Establish Terms of Reference.
   - Has thorough consideration been given to the following:

What facilities are really needed?	Yes	No
What resources are available?	Yes	No
What regulations must oe followed?	Yes	No
Who must give the grant approval?	Yes	No
Who assumes liability?	Yes	No

4. Collect Information.
   - Has every effort been made to involve the total community in the project?

Questionnaires	Yes	No
Presentations	Yes	No
Interviews	Yes	No
Workshops	Yes	No
Public Discussions	Yes	No

5. Develop the Site Program.
   - Does the priorized list of needs reflect the needs of the total community? Yes No
   - Has construction been phased over a number of years to fit community resources and abilities? Yes No

6. Inventory Resources.
   - Have all potential sources of funds and materials been identified and contacted? Yes No
   - Have appropriate tasks been assigned to all volunteers? Yes No

7. Analyze the Site.
   - Have all the potential problems and conflicts been identified? Yes No
   - Are current user patterns of the site and adjacent facilities clearly understood? Yes No

8. Prepare the Plan
   - Have Park Planners, Recreation Consultants or Landscape Architects been consulted? Yes No
   - Have two preliminary plans been developed? Yes No
   - Have the best conditions been identified? Yes No
   - Has a drawing been done of the best plan? Yes No

9. Implement the Plan.
   - Have approvals been granted by all concerned authorities? Yes No
   - Does the community have the skills, resources and enthusiasm to build the project on an all volunteer basis? Yes No
   - Should a contractor be hired? Yes No
   - Are the work sessions and tasks of the volunteers clearly identified and organized? Yes No

10. Review, Evaluate and Maintain the Site.
   - Has the plan been reviewed and evaluated to identify improvements to be made to respond to new community needs? Yes No
   - Have changes been made to update the plan? Yes No
   - Is the community actively involved in the maintenance of the site? Yes No
   - Is the site continually monitored to measure the effectiveness of the design? Yes No

appendix f.

NEEDS ASSESSMENT SHEET FOR PLANNING WORKSHOPS

Your cooperation in completing this sheet will enable your workshop instructor to better structure the workshop to meet the group's particular needs.

I would prefer the workshop concentrate on: (please circle the appropriate number)	Degree of Info. needed. Not at all → Lots					
A. PLANNING PROCESS						
1) Goals and Objectives	1	2	3	4	5	6
2) Formation of Planning Committee	1	2	3	4	5	6
3) Terms of Reference	1	2	3	4	5	6
4) Collection of Information-Questionaires	1	2	3	4	5	6
5) Resource Survey-Material, Funds, People	1	2	3	4	5	6
6) Site Program	1	2	3	4	5	6
7) Site Analysis	1	2	3	4	5	6
8) Site Plan	1	2	3	4	5	6
9) Implementation of Plan - Community Build, Contractor Build	1	2	3	4	5	6
10) Project evaluation, Maintenance	1	2	3	4	5	6
B. TYPES OF PLAY SPACES						
1) Creative Playground	1	2	3	4	5	6
2) Adventure Playground	1	2	3	4	5	6
3) Environmental Yard	1	2	3	4	5	6
4) Winter Snowscape	1	2	3	4	5	6
5) Other (Please be specific) _____						
C. EQUIPMENT CONSIDERATIONS						
1) Sand	1	2	3	4	5	6
2) Water	1	2	3	4	5	6
3) Swings	1	2	3	4	5	6
4) Slides	1	2	3	4	5	6
5) Climbers	1	2	3	4	5	6
6) Hills	1	2	3	4	5	6
7) Surfaces	1	2	3	4	5	6
8) Plants	1	2	3	4	5	6
9) Other (Please be specific) _____						

D. PLEASE DESCRIBE YOUR MOST SIGNIFICANT PROBLEM IN PLAY SPACE DESIGN:

_____

_____

_____

_____

_____

E. NAME OF THE ORGANIZATION YOU ARE REPRESENTING:_____

_____

appendix g.

FUNDRAISING IDEAS AND INFORMATION

Fundraising is a very important activity of all community groups. In order to be successful, a community committee must have fundraising ideas that really work and a plan or strategy for their fundraising campaign.

Fundraising ideas or methods fall under two categories: direct fundraising and indirect fundraising.

DIRECT FUNDRAISING is when you present your idea, project or program to a potential donor and give that person the opportunity to contribute to it. In direct fundraising, you are actually selling support for your project. Listed below are direct fundraising methods:

Door to Door Campaign
Direct Mail Solicitation
Government Grants
Donations from Foundations
Donations from Businesses, Corporations and Service Clubs
Sell Memberships
Bequests and Endowments
Pledges
Tag Days

INDIRECT FUNDRAISING is when you have an activity that produces something else to sell with the proceeds going to the cause. Examples of indirect fundraising methods are:

Carwash
Raffle
Community Auction
Company Display Auction
Bottle Drive
Mud Fights
Turkey Shoot
Moto-cross
Money Tree
Flea Market or Garage Sale
_____-a-thons (Bike, Dance, Walk etc.)
Slave Day or Auction
Sport Competitions or Tournaments
Courses with free instruction
Jail Bail
Bingo
Cottage or House Raffle
Calcutta Lottery
Celebrity Auction
Sale of: meat, buttons, t-shirts, crests, hats, pens, baked goods, art work, grain or flax straw, candy, rummage goods, farmers' produce, cookbooks, crown land, Nevada tickets
Catering
Carnival or Fair
Interclub Dinners
Talent Night
Ski-doo Poker Derby
Roast of local celebrity
Wine and Cheese Party
Movies
Casino
Social Dances
Theatre Production
Concert
Fowl or Perogy Supper
Donkey Baseball
Family Feud
Handbook Advertisement
400/200/100 Club
Beer Gardens

To be successful in fundraising you should follow these principles:

1. You must believe your cause is worthwhile and sell the idea to the community through a public relations campaign using pamphlets, brochures and the media.

2. You should form a separate committee to be responsible for the fundraising. The main committee is busy working on the project and will not be able to put a total effort in fundraising.

3. The fundraising ideas must be designed to suit the needs and abilities of your particular community.

4. Avoid duplicating ideas already used by other groups in your community.

5. You must make long range plans. The goals, objectives and budget should span over several years. This should be done before you start raising money.

6. Select members for the fundraising committee who have expertise in the tasks to be accomplished.

7. Have enough volunteers involved so each person only has to make a small contribution.

8. When recruiting volunteers for the fundraising campaign, describe several jobs and give people a choice.

9. Volunteers should have a definite term of membership on the committee.

10. Keep accurate records.

11. Choose projects that have a high return of money for a minimum expenditure of money and labour. Keep fundraising expenses to 15%, or less, of the goal.

12. Combine direct and indirect fundraising ideas in your campaign.

13. Aim for fewer more successful events or activities. Do not be too ambitious. You will burn your volunteers out.

14. Approach people individually in person for their contribution of time, service, money or equipment.

15. Give recognition to everyone involved. Publicize the amount raised and the names of volunteers on the committee and helping with events.

16. Become incorporated because incorporation is one step along the way to proving the legitimacy of your organization when it comes to fundraising. Other reasons are as follows:

a) It is more permanent. Regardless of changes in the membership, the organization maintains its purpose in compliance with the letters patent.

b) There is limited liability. If there is a loss of money the individuals avoid personal bankruptcy.

c) If there is a need for legal action, the organization can bring an action.

d) The incorporated organization may hold property.

In order to incorporate, you must pay a fee to the government. A lawyer must help to draft your letters patent and particular by-laws. You also must have a board of directors to be legally responsible for the affairs of the organization.

Another option is to work through an organization that is already incorporated such as the municipal corporation: the town or rural municipality.

17. If you plan to solicit donations from the private sector you should register as a charitable organization with Revenue Canada. This enables the donors to deduct any gift to your organization from their income tax. Information about applying for charitable status is available from:

Revenue Canada
Charitable and Non-Profit
Organizations Section
Cumberland Place
400 Cumberland Street
Ottawa, Ontario
K1A 0X5

A chartered accountant or lawyer should make the application.

FUNDRAISING EVENTS CHECKLIST

Check off the items on this list as they are completed.

1. PURPOSE or reason for fundraising event

   _____ is known by the group/Committee/Council

   _____ is known by the community

   _____ is described in a specific objective written by the fundraising committee

2. BUDGET

   _____ a budget outline has been prepared

   _____ records and bills are kept of the real costs

   _____ a financial statement is prepared at the end of the event

   _____ start-up money has been found if necessary

3. VOLUNTEER LEADERSHIP

   _____ roles of volunteers have been outlined

   _____ roles of chairman and committee is known by the committee and community

   _____ tasks have been decided and delegated (WHO does WHAT by WHEN)

4. FACILITIES

   _____ have been booked and confirmed

   _____ setting up and cleaning up responsibilities are clear

5. PUBLIC RELATIONS

   _____ a campaign plan is organized

   _____ flyers, brochures, tickets are printed

   _____ the media has been sent press releases or invited to a press conference

   _____ the date, time, place, purpose have been publicized

6. FOLLOW-UP

_____ evaluation of the event and volunteers has been completed

_____ a brief report has been put on file

_____ volunteers have received formal recognition.

appendix h.

LIST OF PLAY EQUIPMENT MANUFACTURERS

There are a number of commercially manufactured models of play equipment available to communities in Manitoba. If you want to know more about specific items of equipment please write or phone the local sales representative. In addition, there are a number of local metal work shops which will fabricate play equipment to order.

1) Big Toys
B & B Recreational Distributors
74 Canoe Bay
Winnipeg, Manitoba
R3K 0W3
Ken Brown
885-4721
669-2894

2) Children's Playgrounds Inc.
Traverse Supply Ltd.
1364 Clifton Street
Winnipeg, Manitoba
R2E 2V2
Joyce MacGregor
786-5918

3) Corcan A/D Industries
Stony Mountain Institution
P.O. Box 101
Stony Mountain, Manitoba
R0C 3A0

4) D & M Welding
2901 Sturgeon Road
Winnipeg, Manitoba
R2Y 0L4
837-4293

5) Finnskoga Play Systems Inc.
289 Gordon Avenue
Winnipeg, Manitoba
R2L 0I7
Robert Gillespie
667-8296

6) Game Time of Canada
P.O. Box 122
Bowmanville, Ontario
L1C 3K9
(416) 433-4212

7) Hilan Creative Playstructures
Scripline Limited
1225 Loudoun Road
Winnipeg, Manitoba
R3S 1A3
Sonja Anderson
895-7215
(Scripline also handles Henderson Recreation Equipment)

8) Miracle Recreation Equipment
Donnel Supply Company Ltd.
4427 Manitoba Road S.E.
Calgary, Alberta
T2G 4B9

9) Paris Playground Equipment
Shorty's Construction Co. Ltd.
3818 Wilkes Avenue
Winnipeg, Manitoba
R3S 1A9
895-0202, 895-0203

10) Ressco Playground Equipment
2364 Haines Road
Mississauga, Ontario
L4Y 1Y6
(416) 272-0063

11) Trojan Playground Equipment
Bestway Builders (1981) Ltd.
2215 Henderson Highway
East St. Paul, Manitoba
R2E 0B8
338-9107, 668-9077

bibliography

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